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DETAILED  
HISTORY OF THE RAILWAYS  
IN THE  
SOUTH AFRICAN WAR  
1899—1902

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VOL. II.—ILLUSTRATIONS

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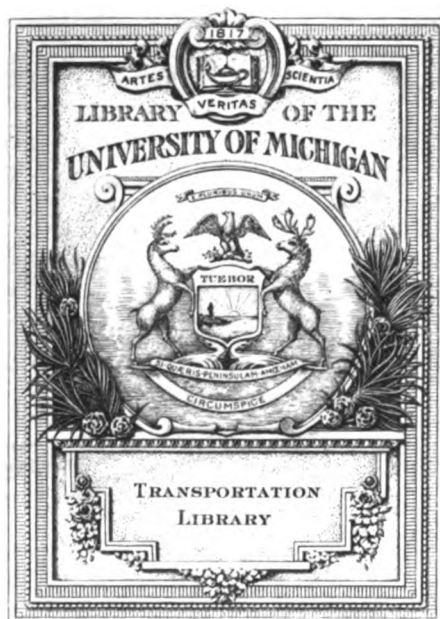
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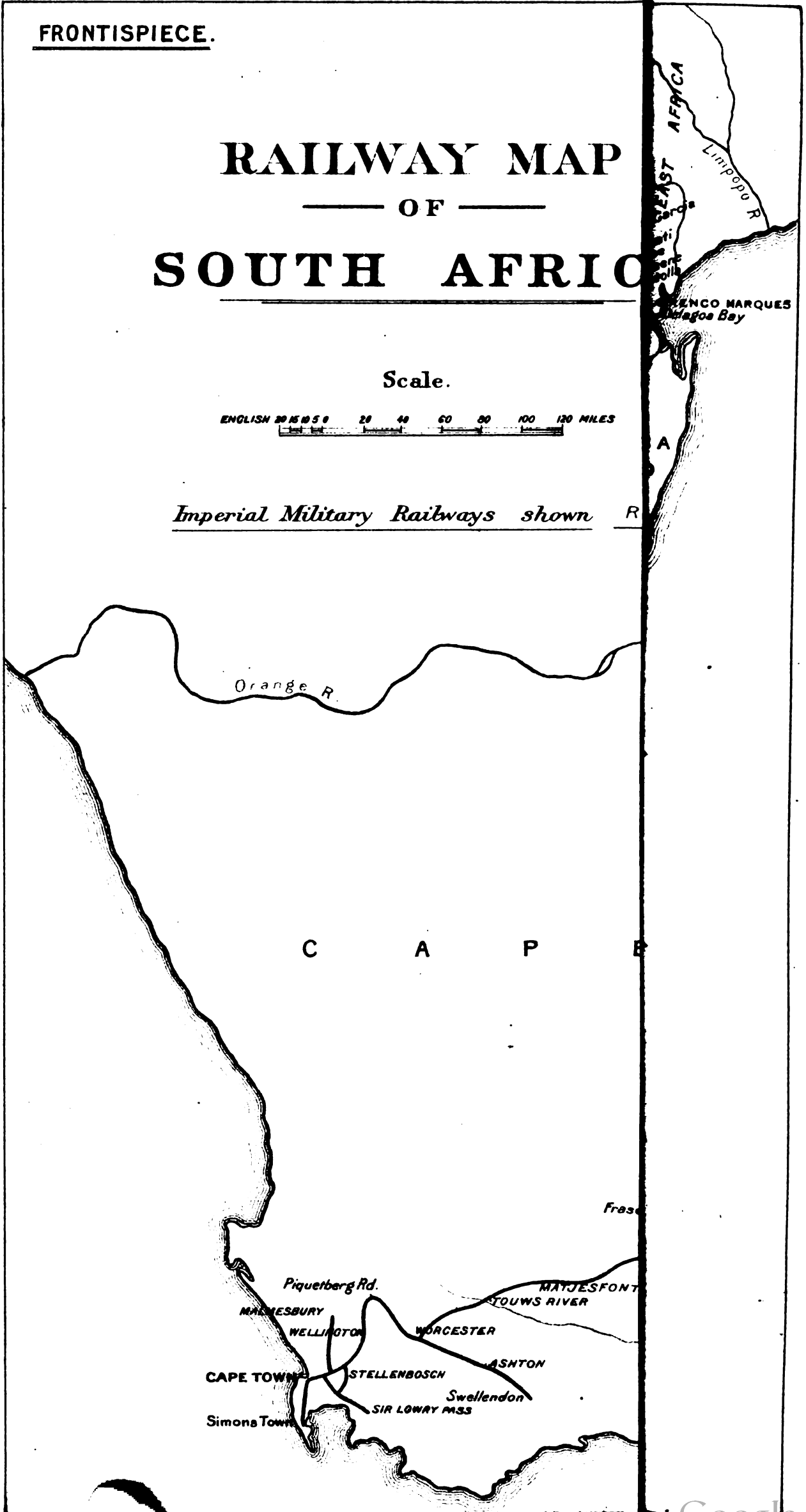
FRONTISPIECE.

# RAILWAY MAP — OF — SOUTH AFRICA

Scale.

ENGLISH 20 40 60 80 100 120 MILES

Imperial Military Railways shown



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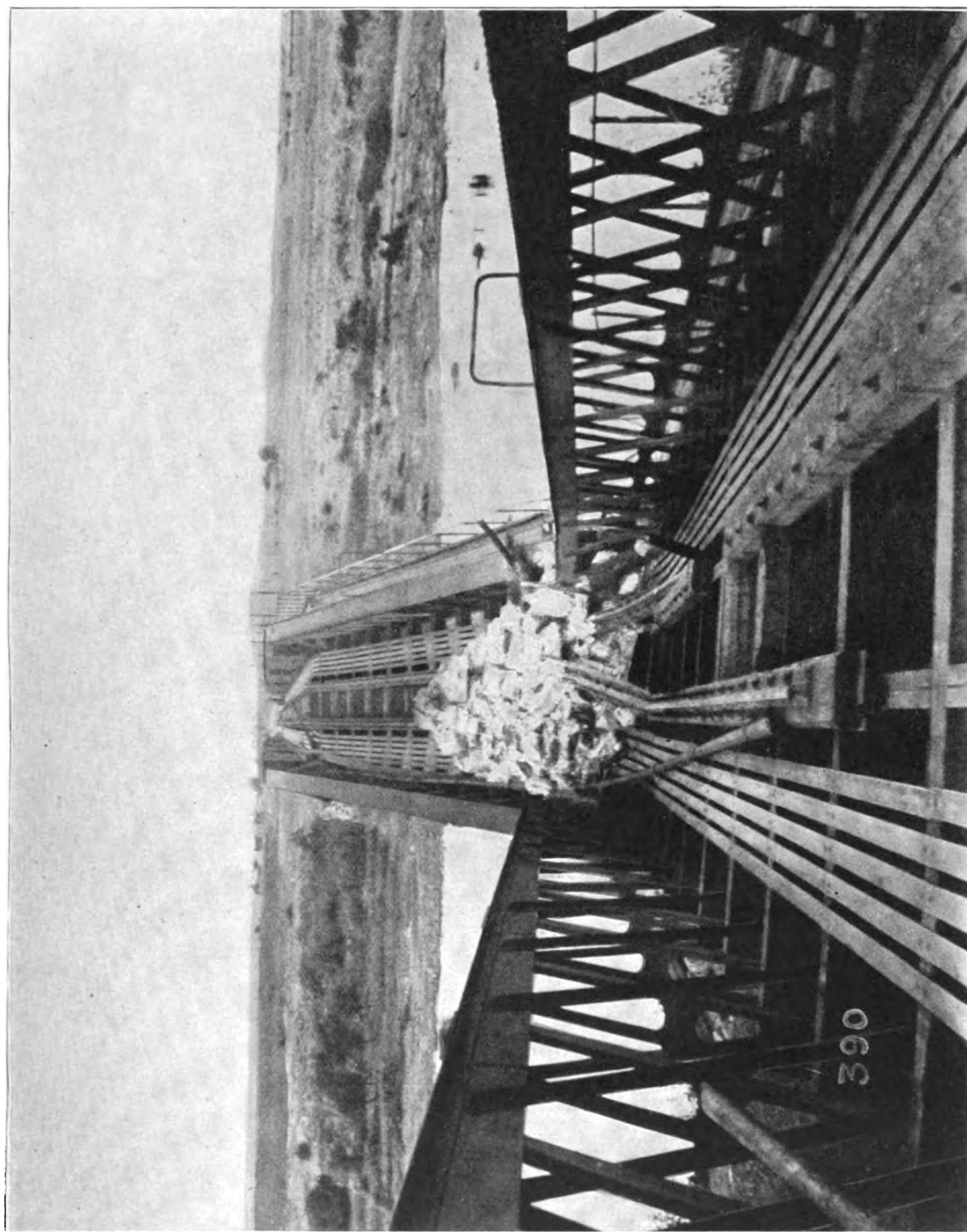


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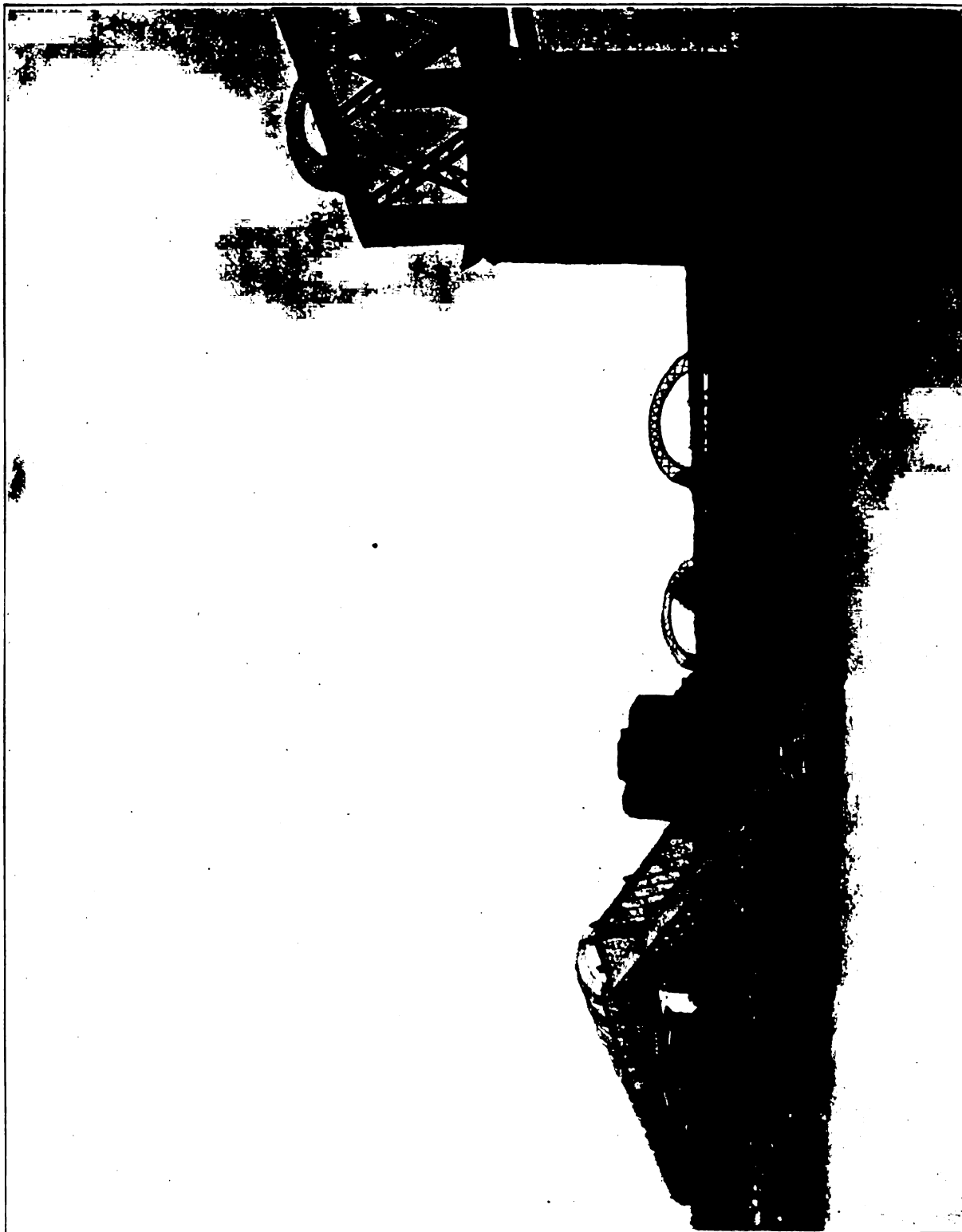


**Modder R. Bridge, Kimberley line.**

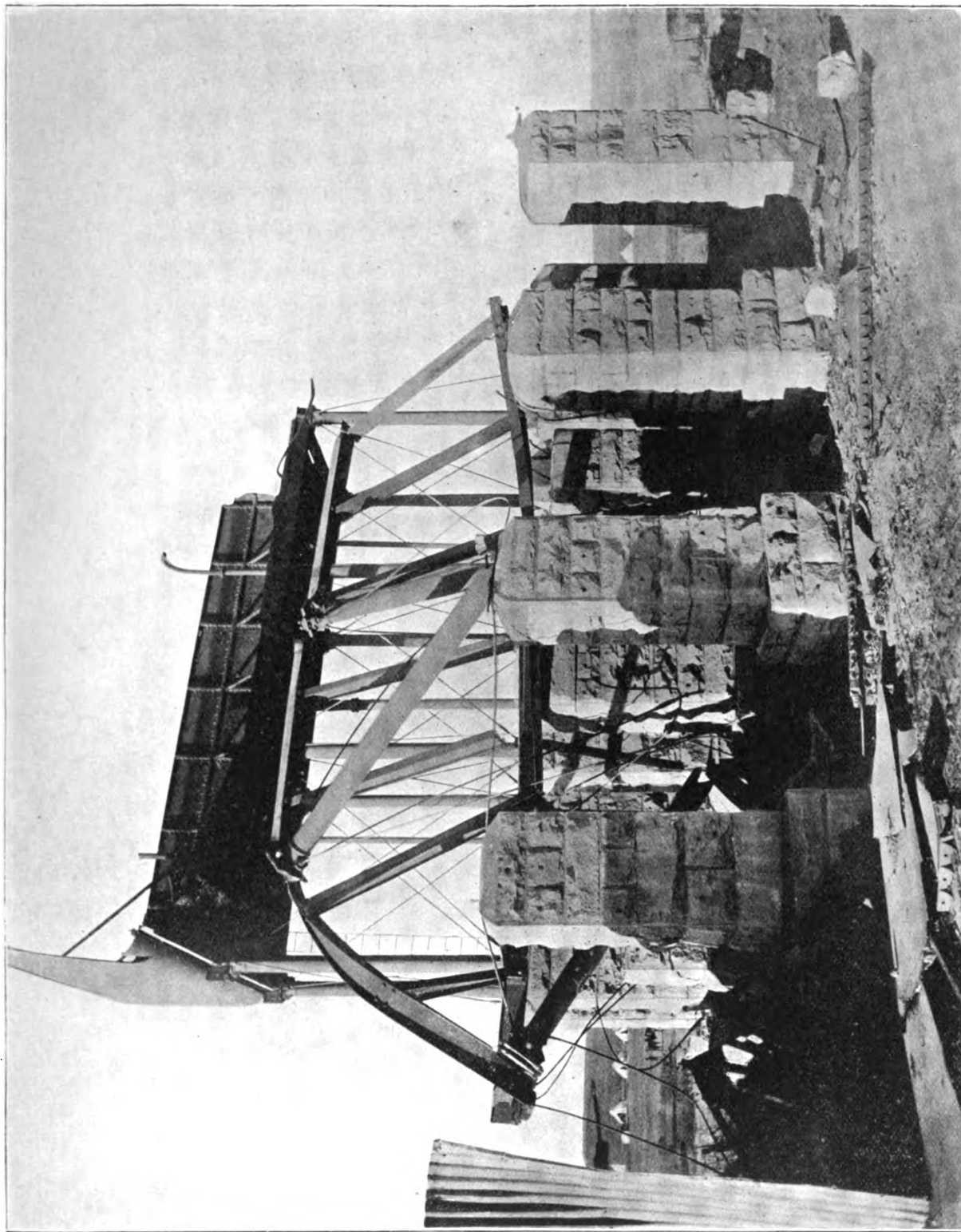
View from south bank, showing damage by enemy.



PHOTO 2.

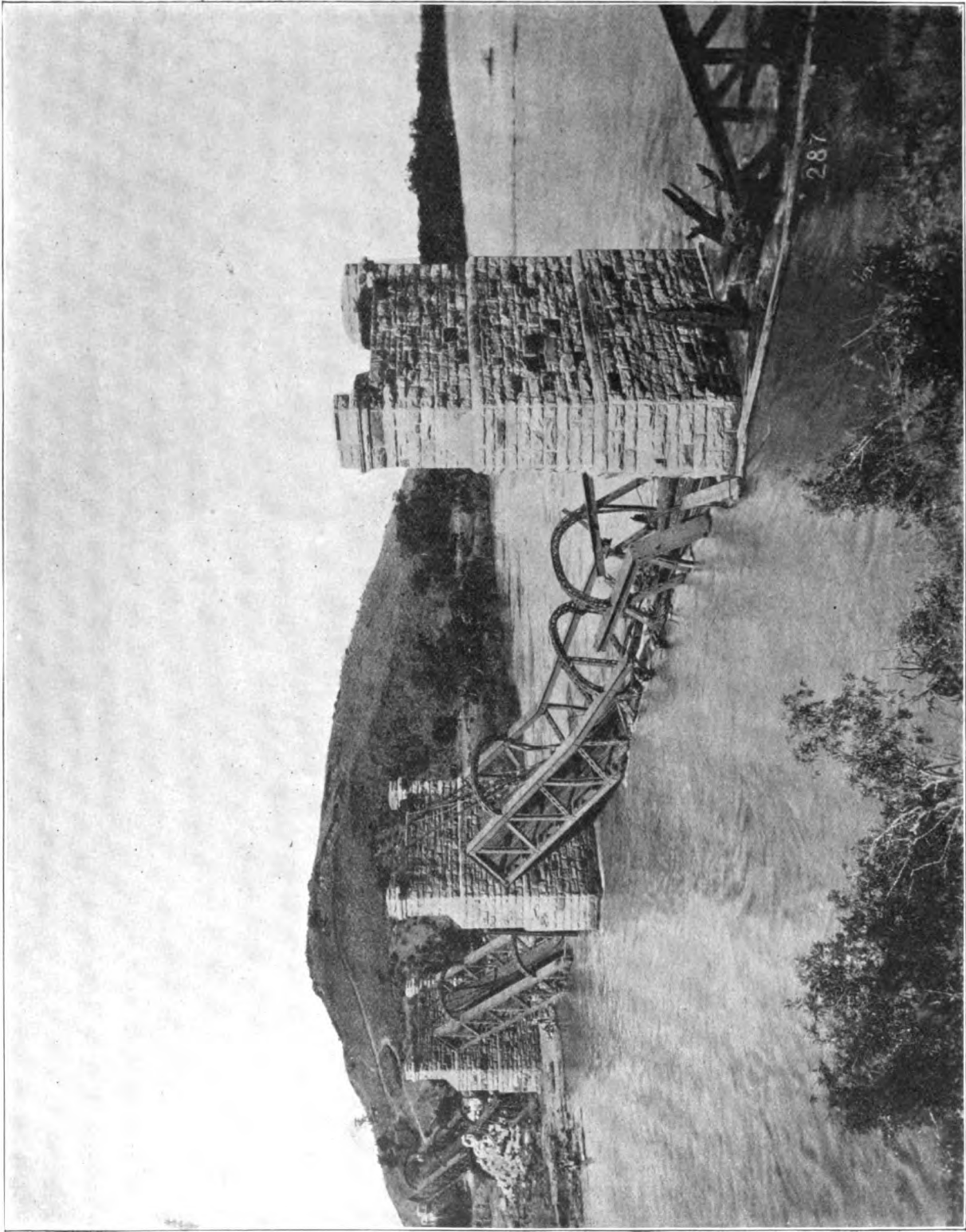


Vaal R. Bridge, Fourteen Streams, Mafeking line.  
Showing damage by enemy.

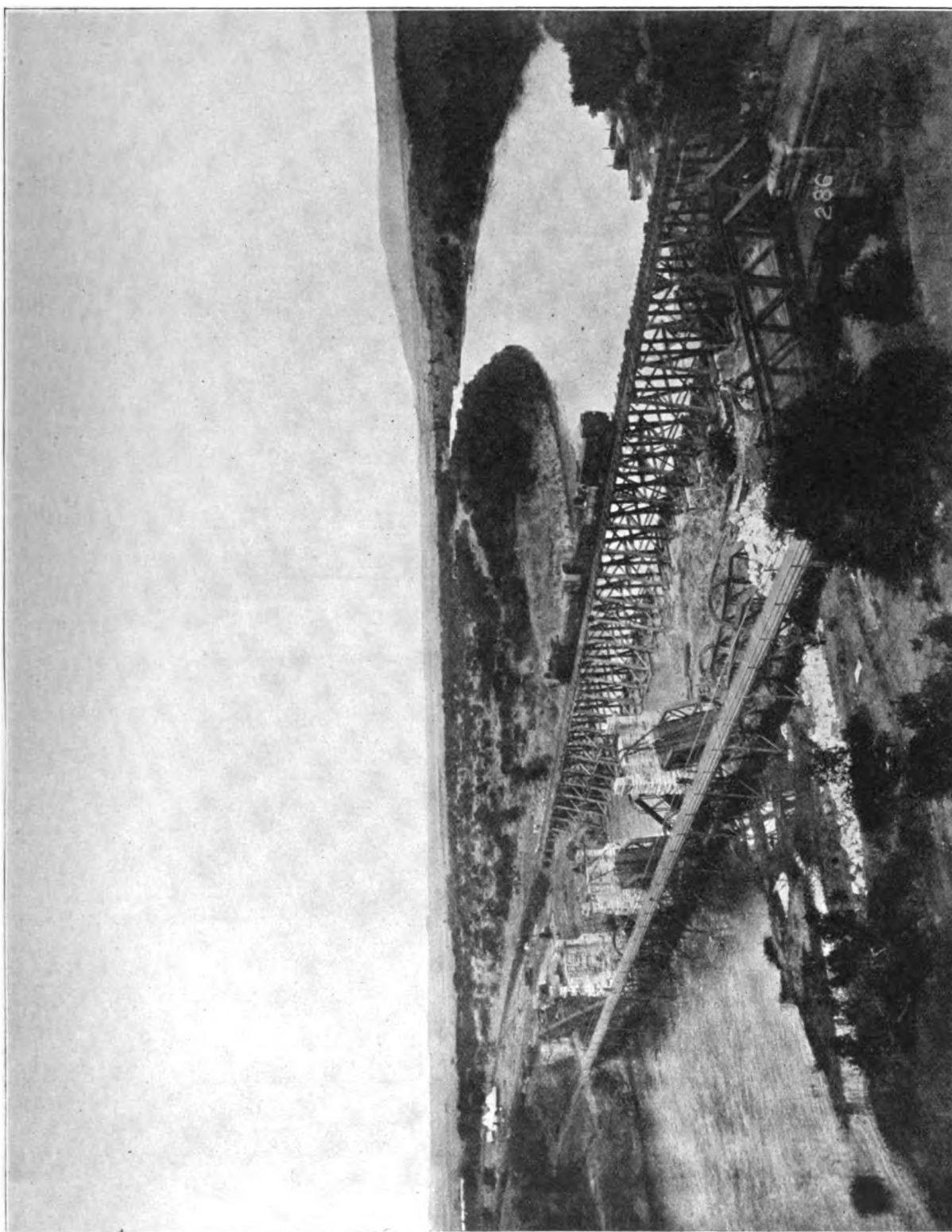


Newcastle, Natal.  
Water tank destroyed by enemy.

PHOTO 4.

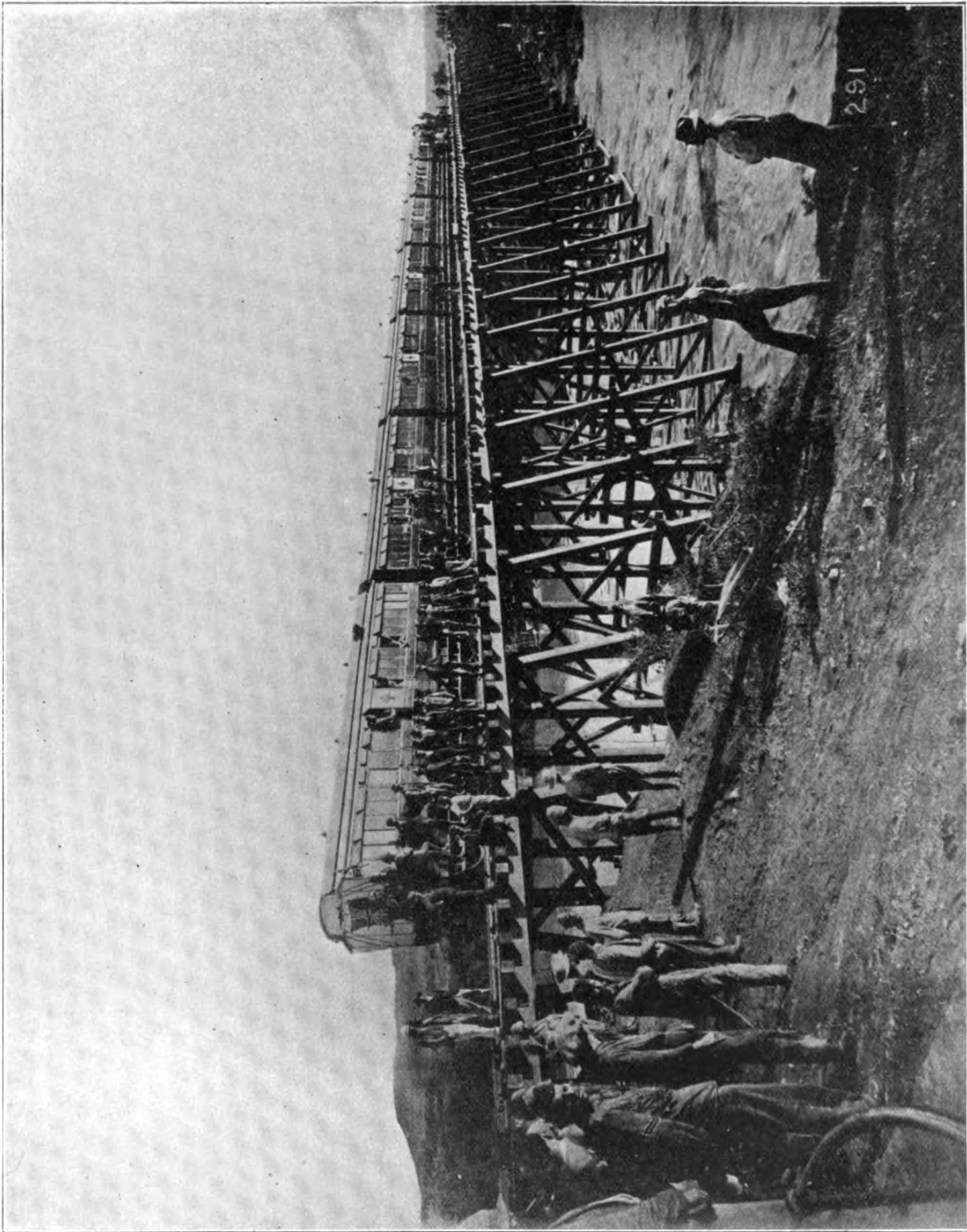


**Tugela R. Bridge, Colenso, Natal.**  
Showing damage by enemy. Fort Wylie in background.

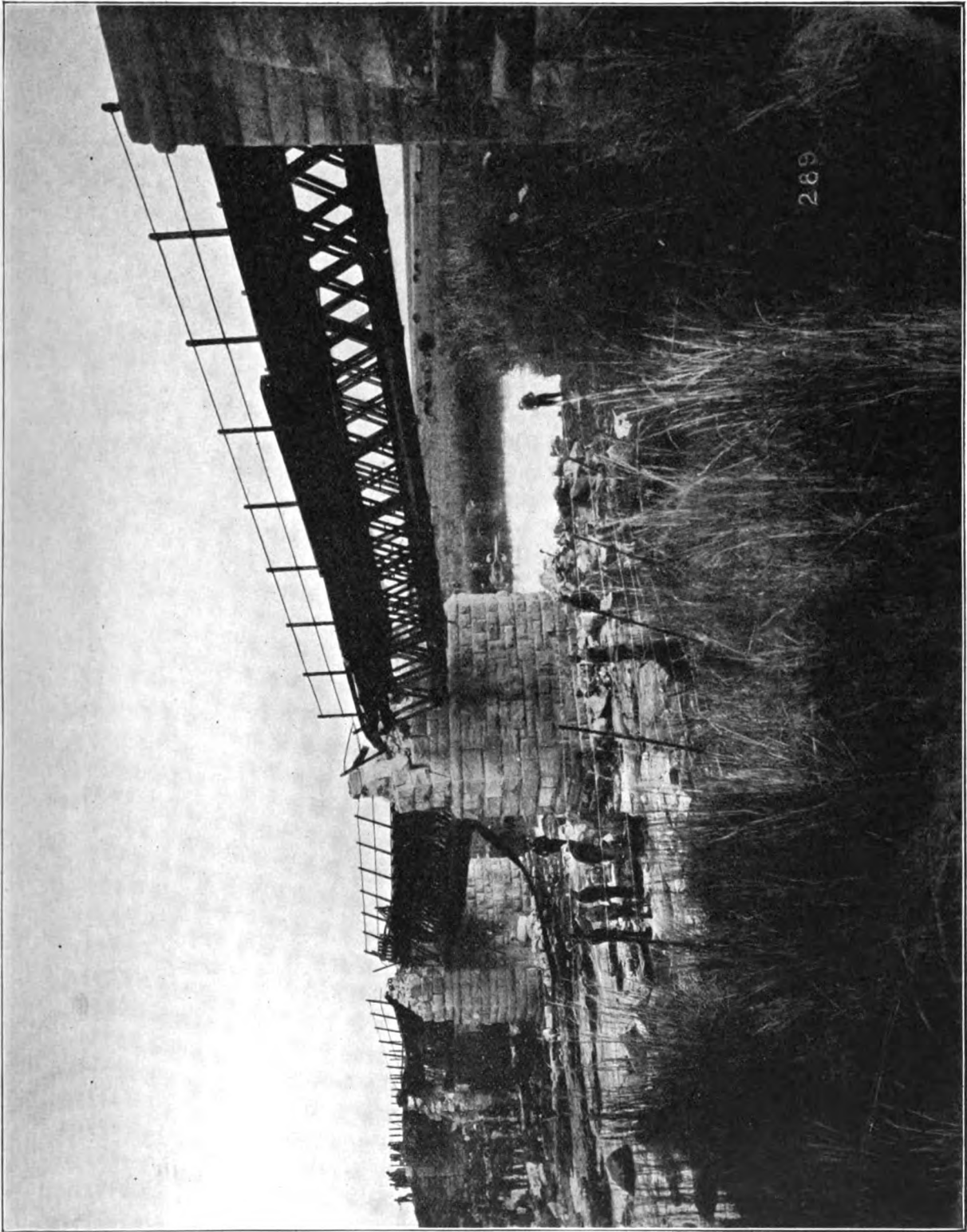


**Tugela R. Bridge, Colenso, Natal.**  
Deviation railway bridge and footbridge; looking South.



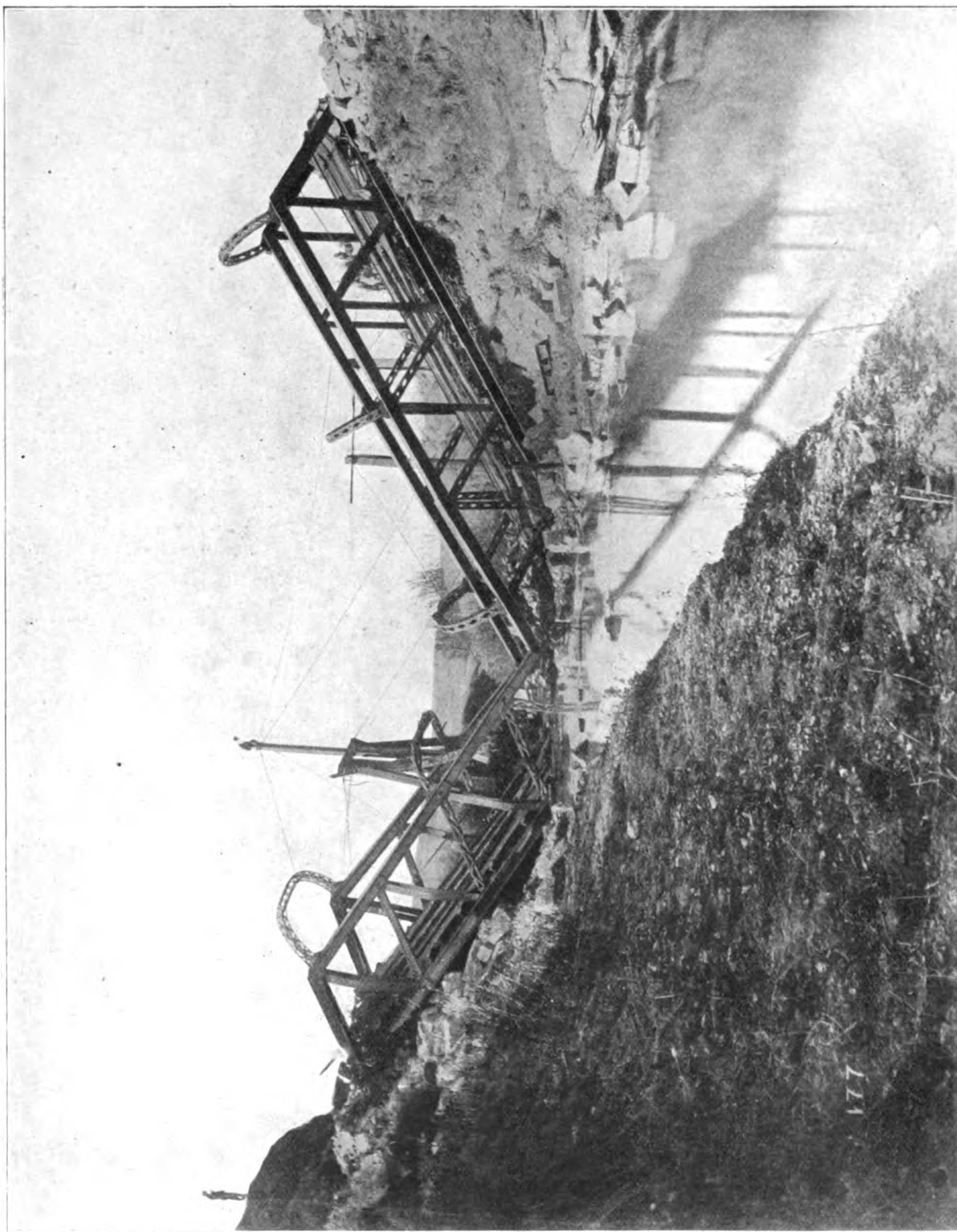


**Tugela R. Bridge, Colenso, Natal.**  
"Princess Christian" Hospital Train crossing deviation bridge.

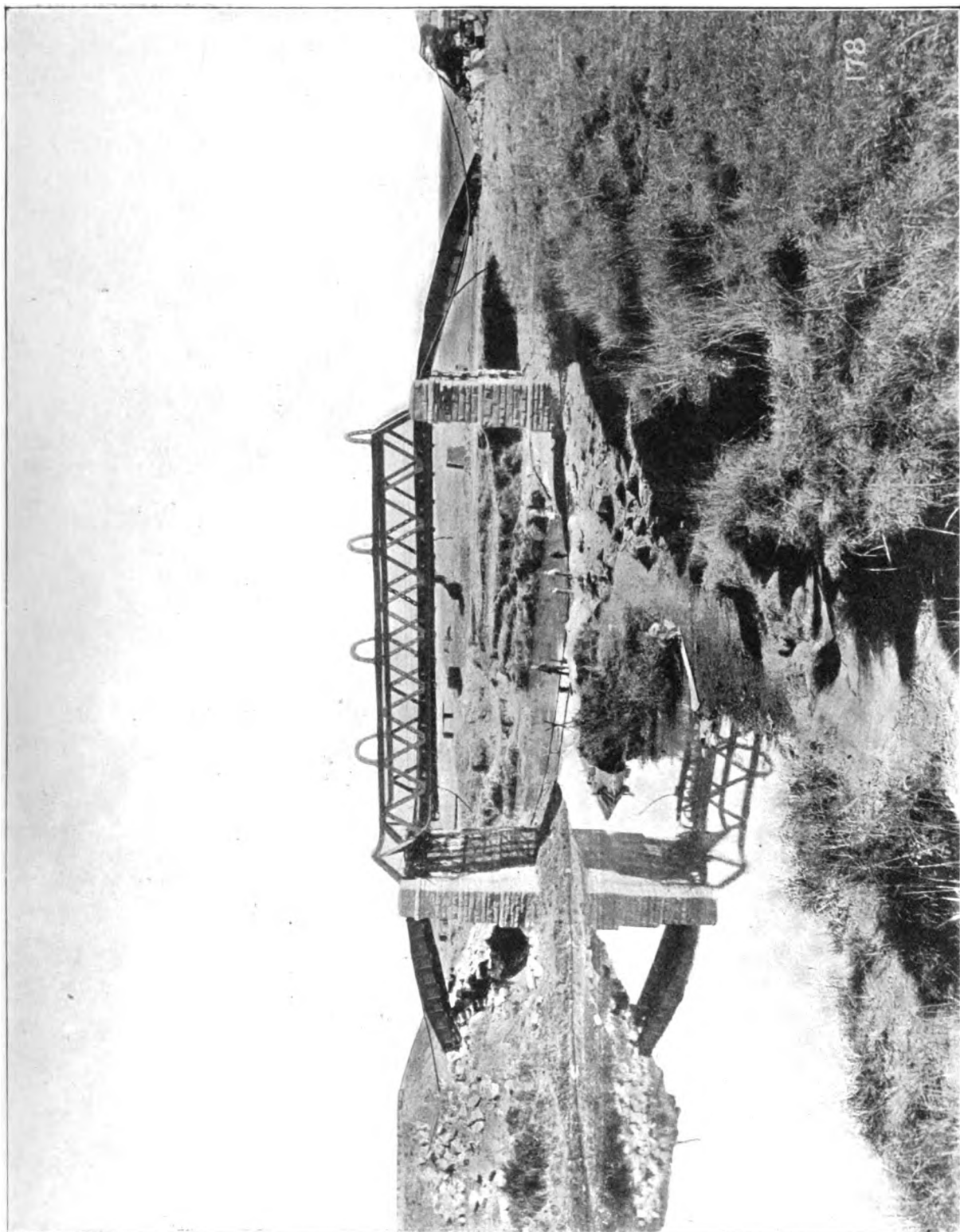


Sunday R. Bridge, Natal.  
Showing damage by enemy.

PHOTO 8.



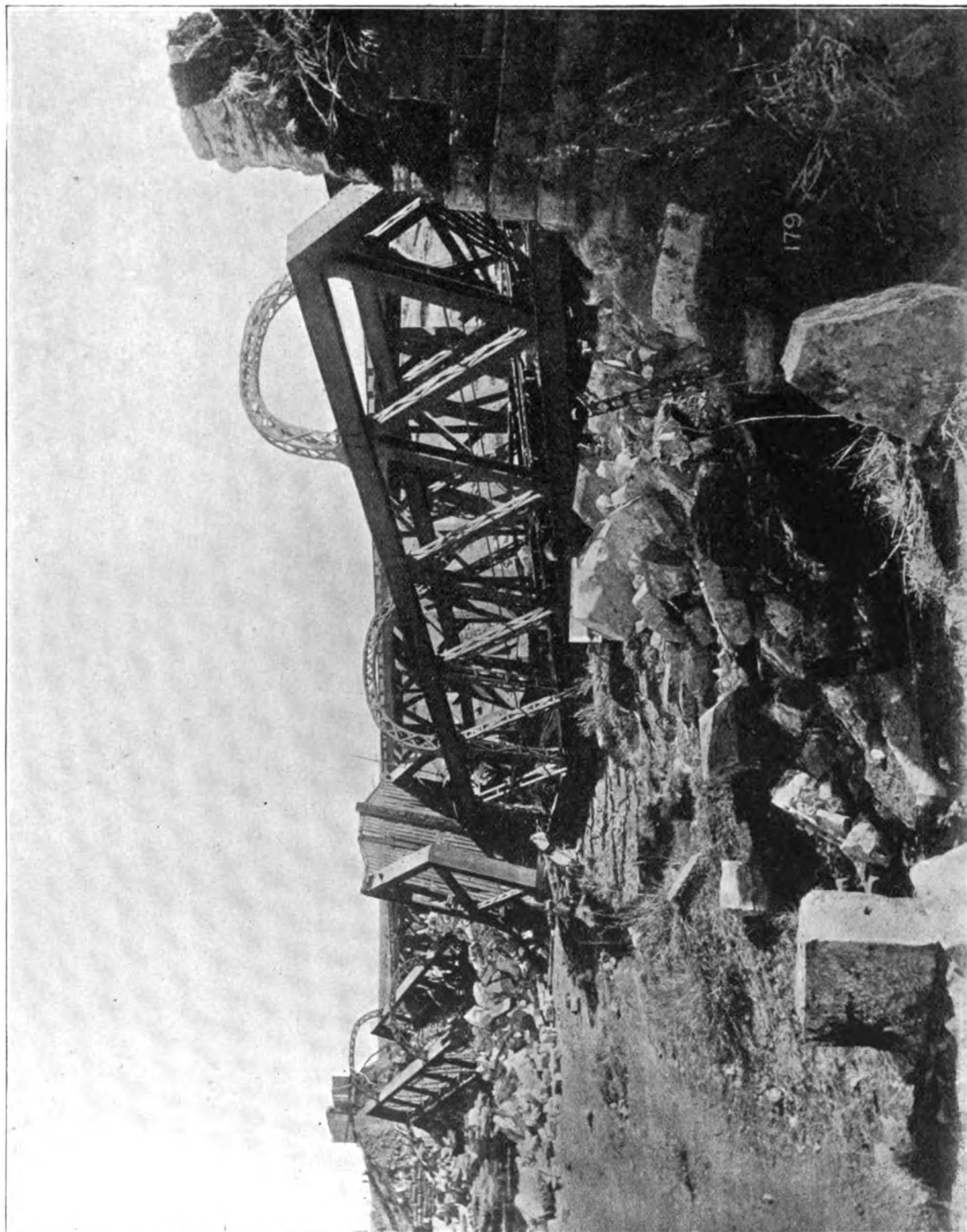
Ingogo R. Bridge, Natal.  
Showing damage by enemy.



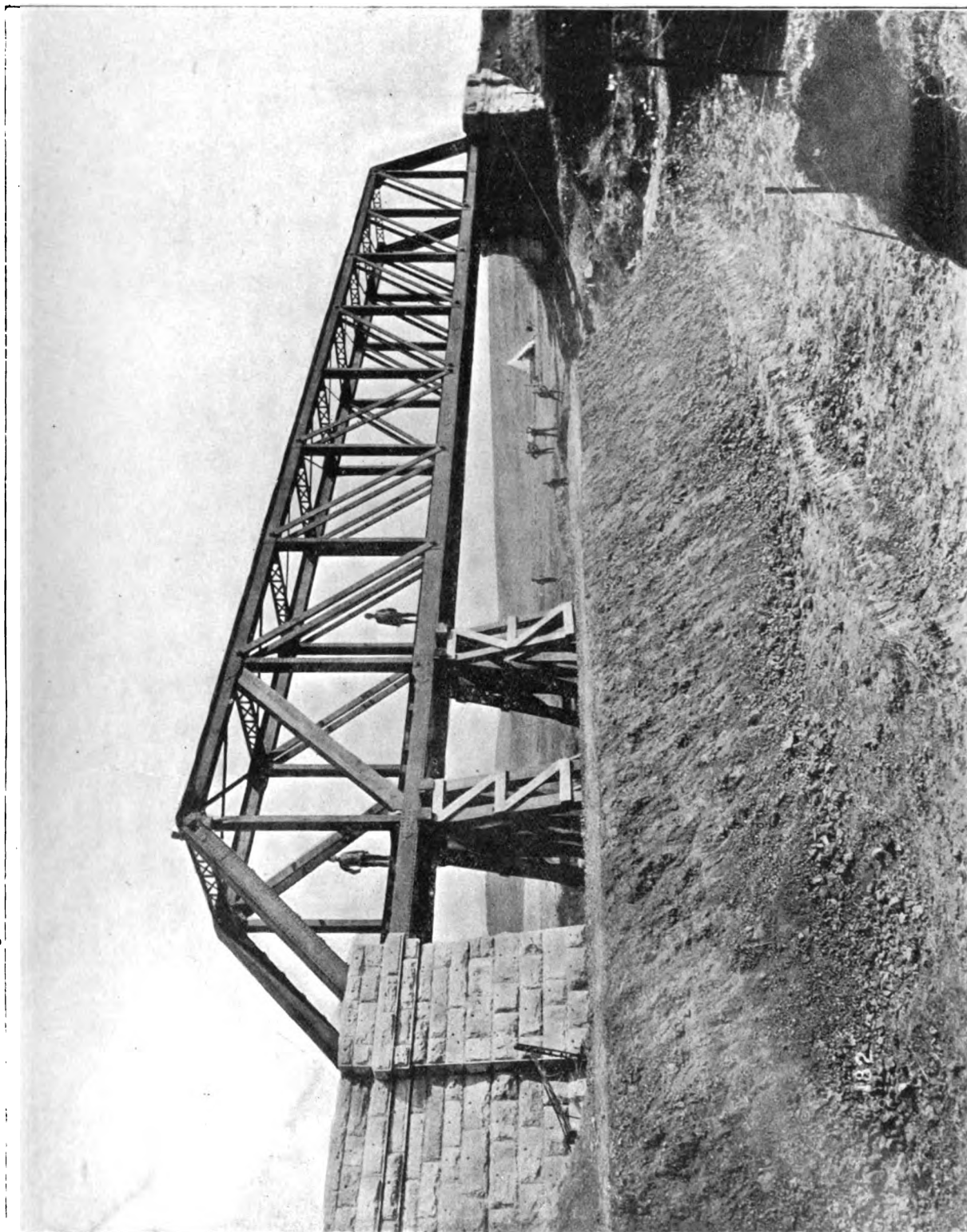
Incandu R. Bridge, Natal.  
Showing damage by enemy.



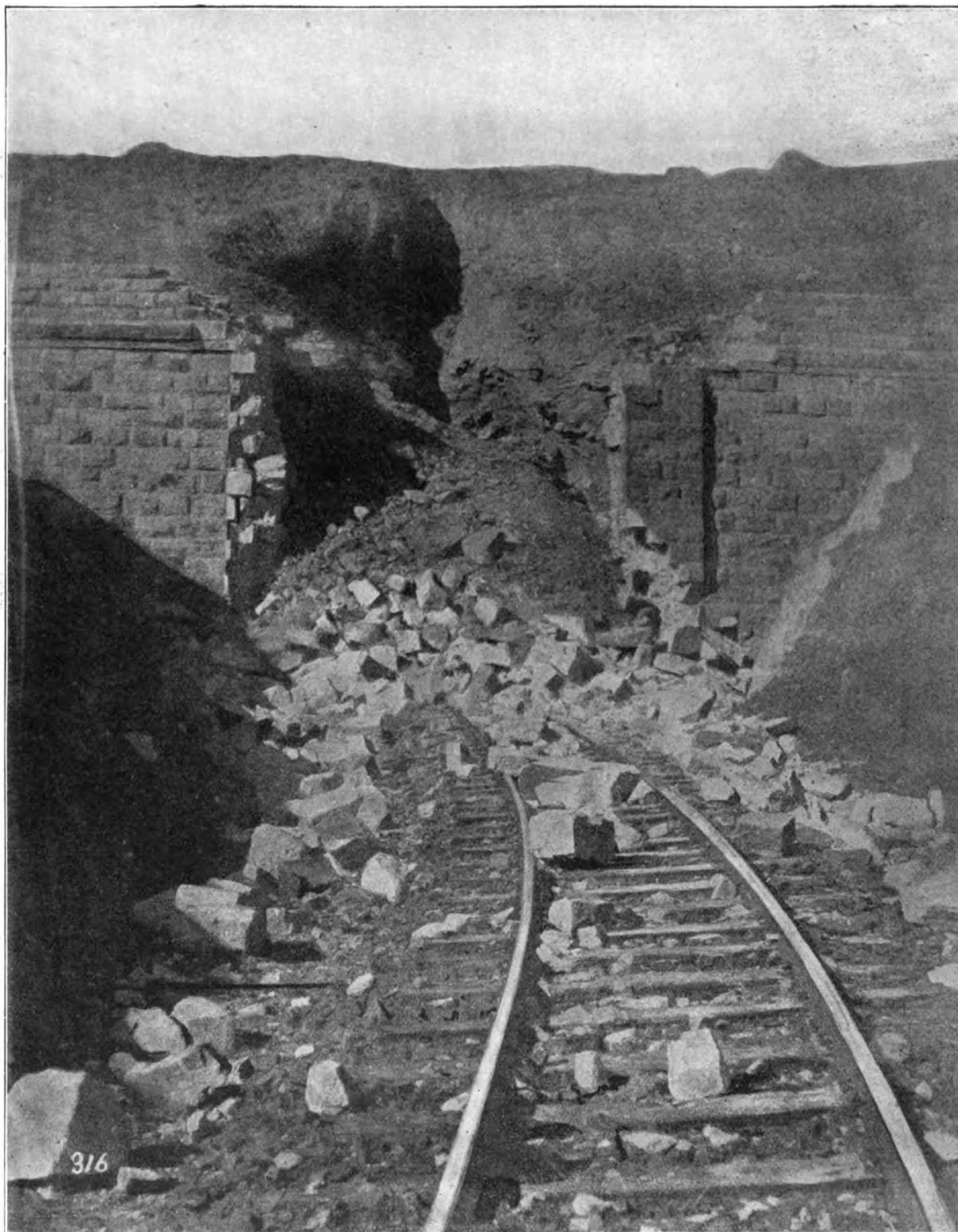
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**Washbank R. Bridge, Natal.**  
Showing damage by enemy.

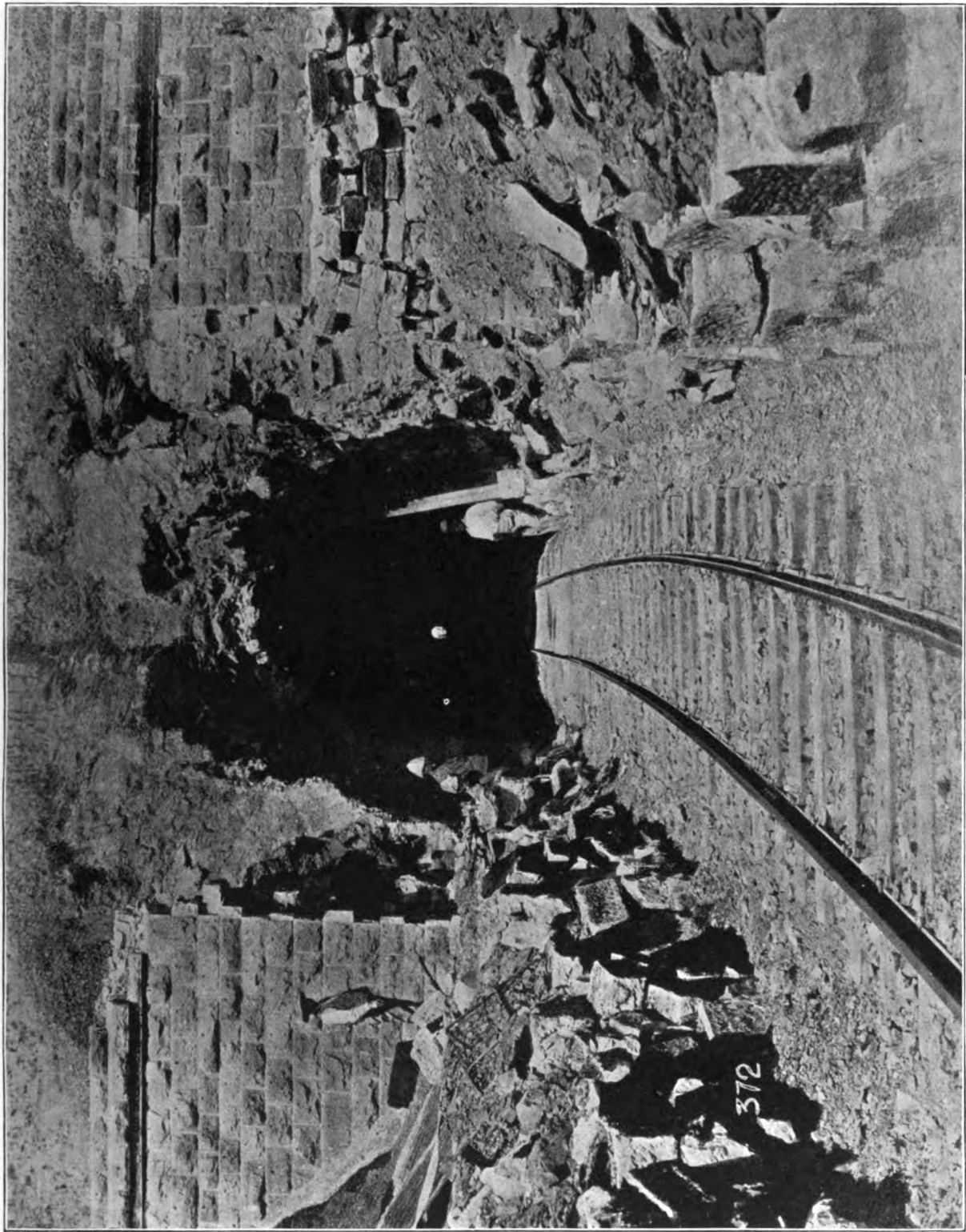


**Zandspruit Bridge, Natal.**  
Showing damaged girders supported on trestles.



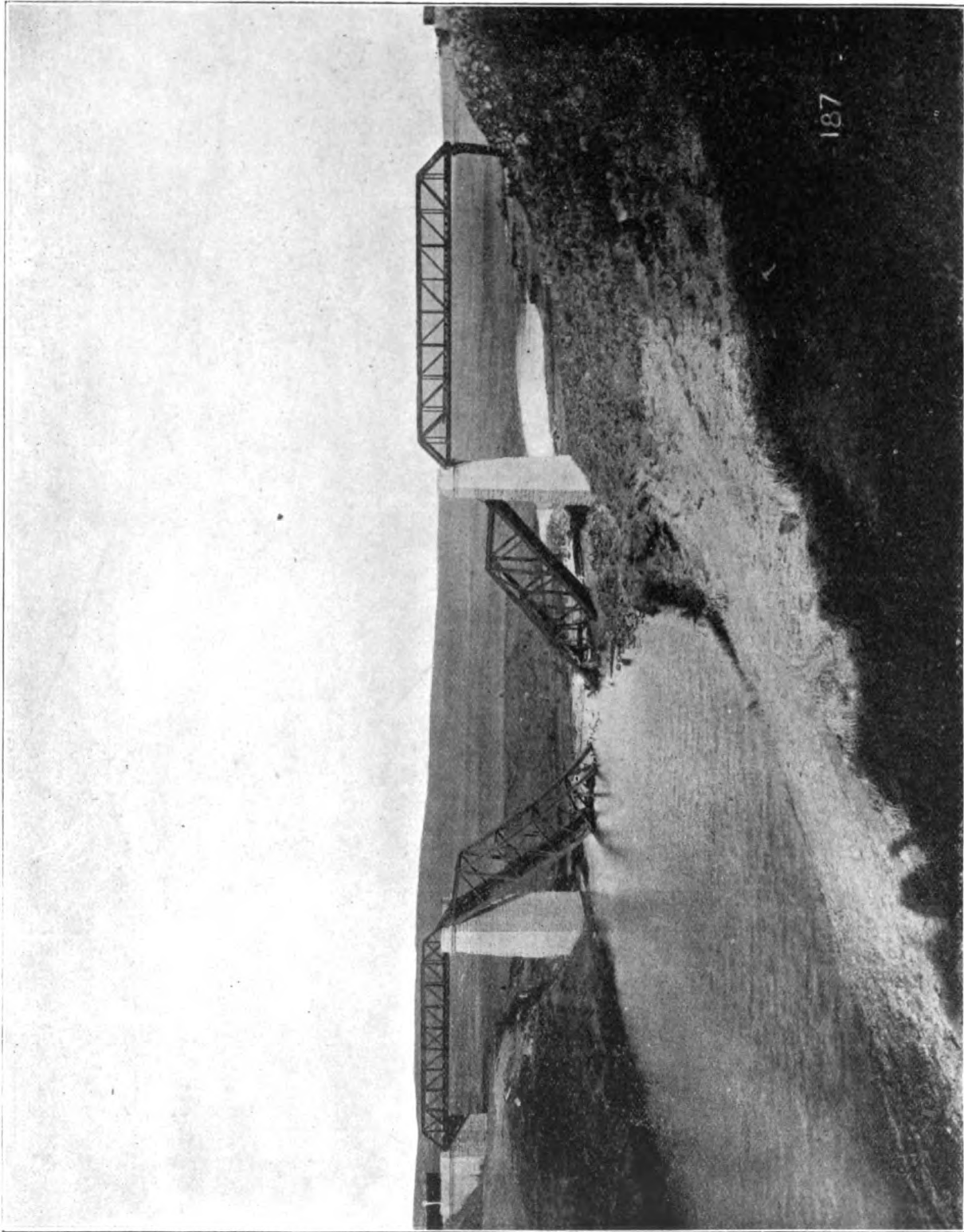
**Laing's Nek Tunnel, Natal.**  
Showing damage by enemy at South end.



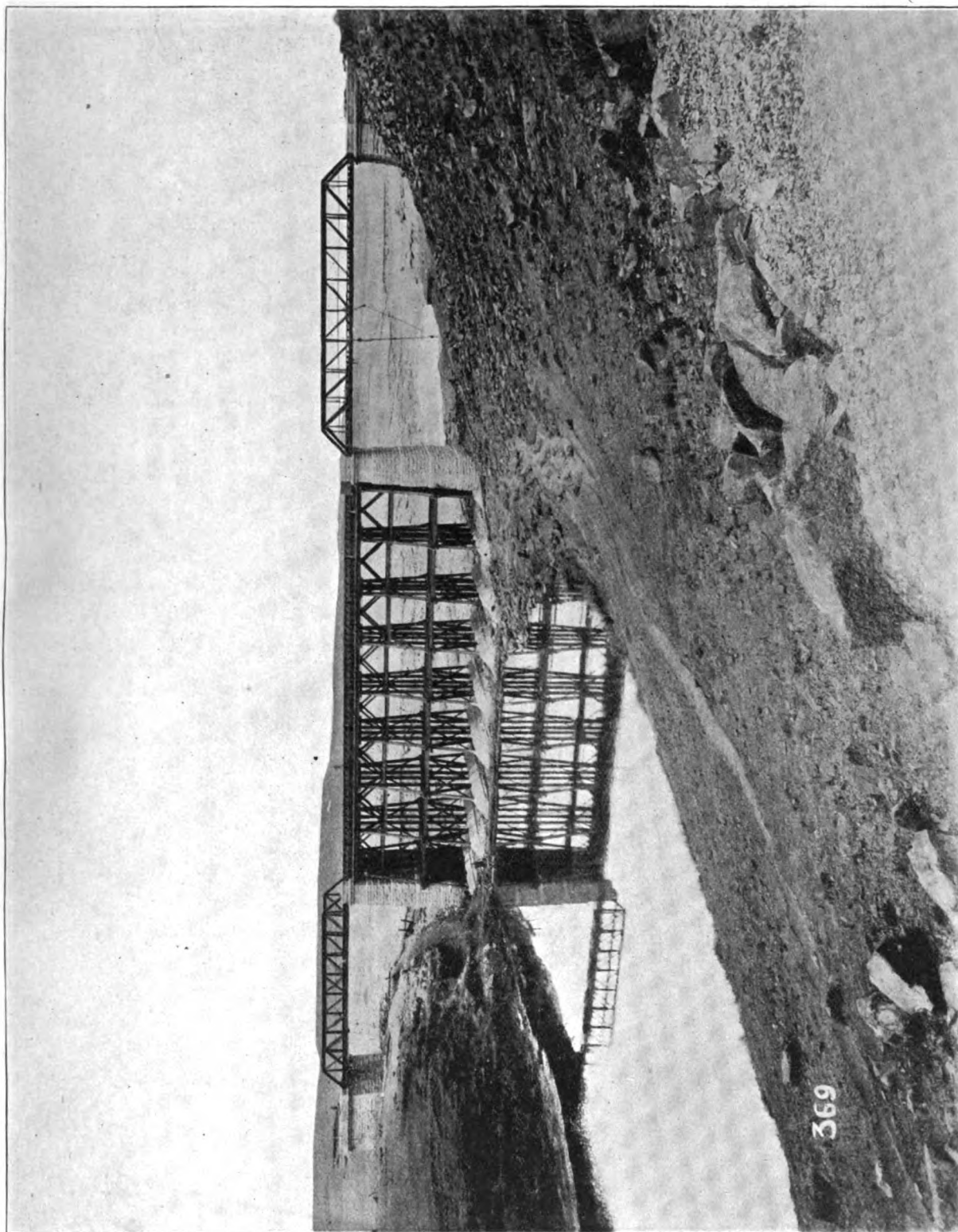


Laing's Nek Tunnel, Natal.  
South entrance cleared.

PHOTO 14.

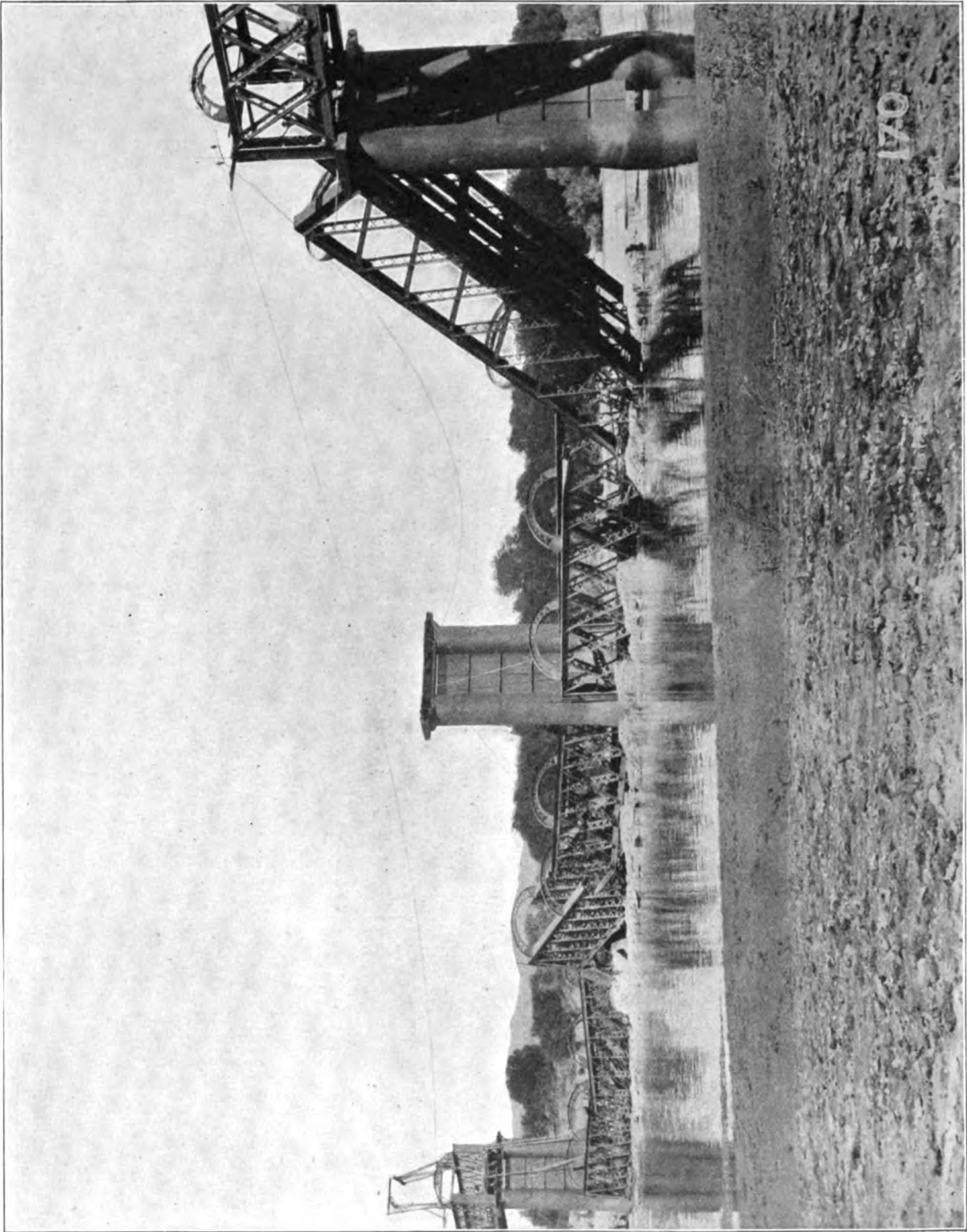


Vaal R. Bridge, Standerton, Elandsfontein—Natal line.  
Showing damage by enemy.



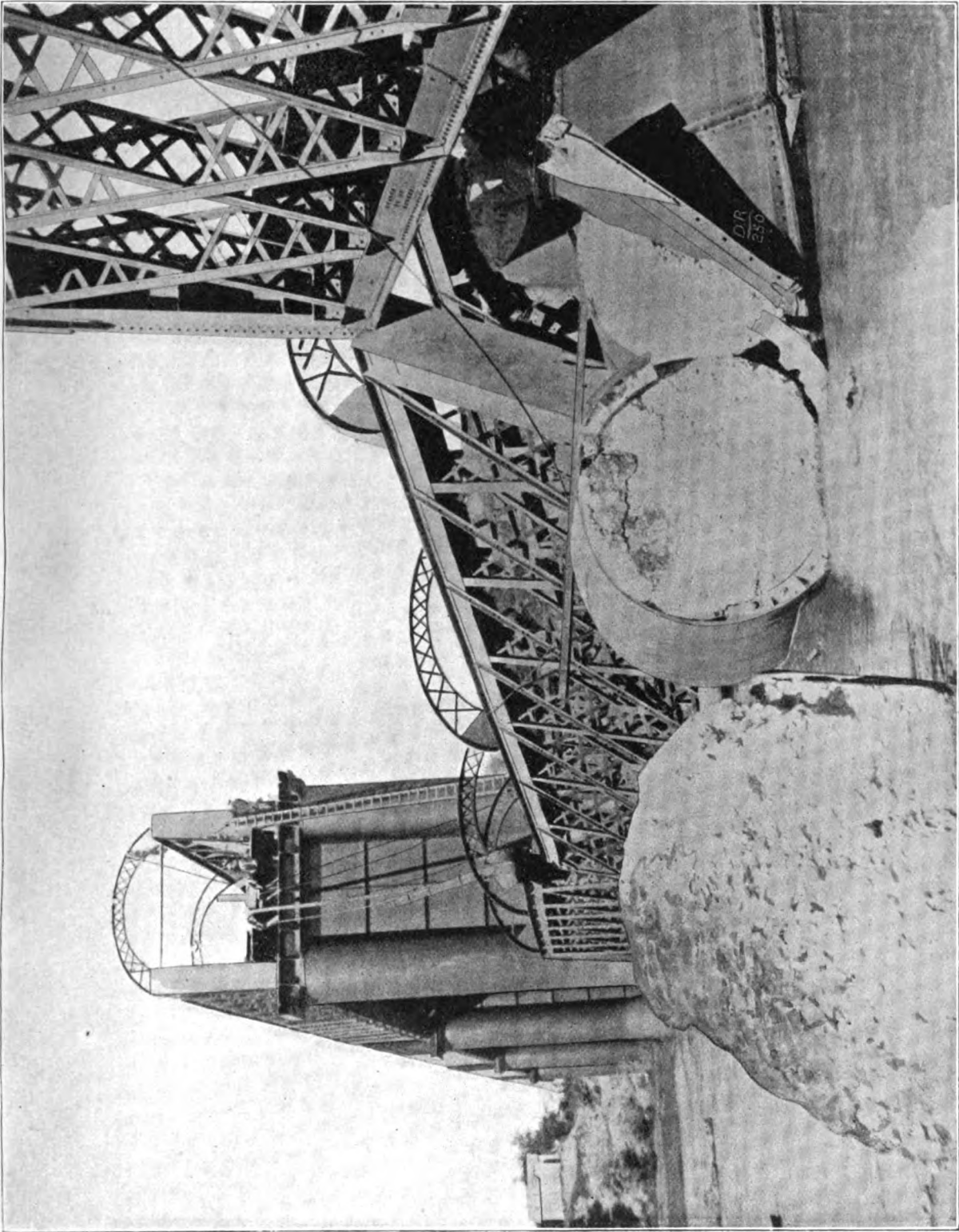
Vaal R. Bridge, Standerton, Elandsfontein—Natal line.  
Semi-permanent reconstruction.

PHOTO 16.



Orange R. Bridge, Norval's Pont.  
Showing damage by enemy.



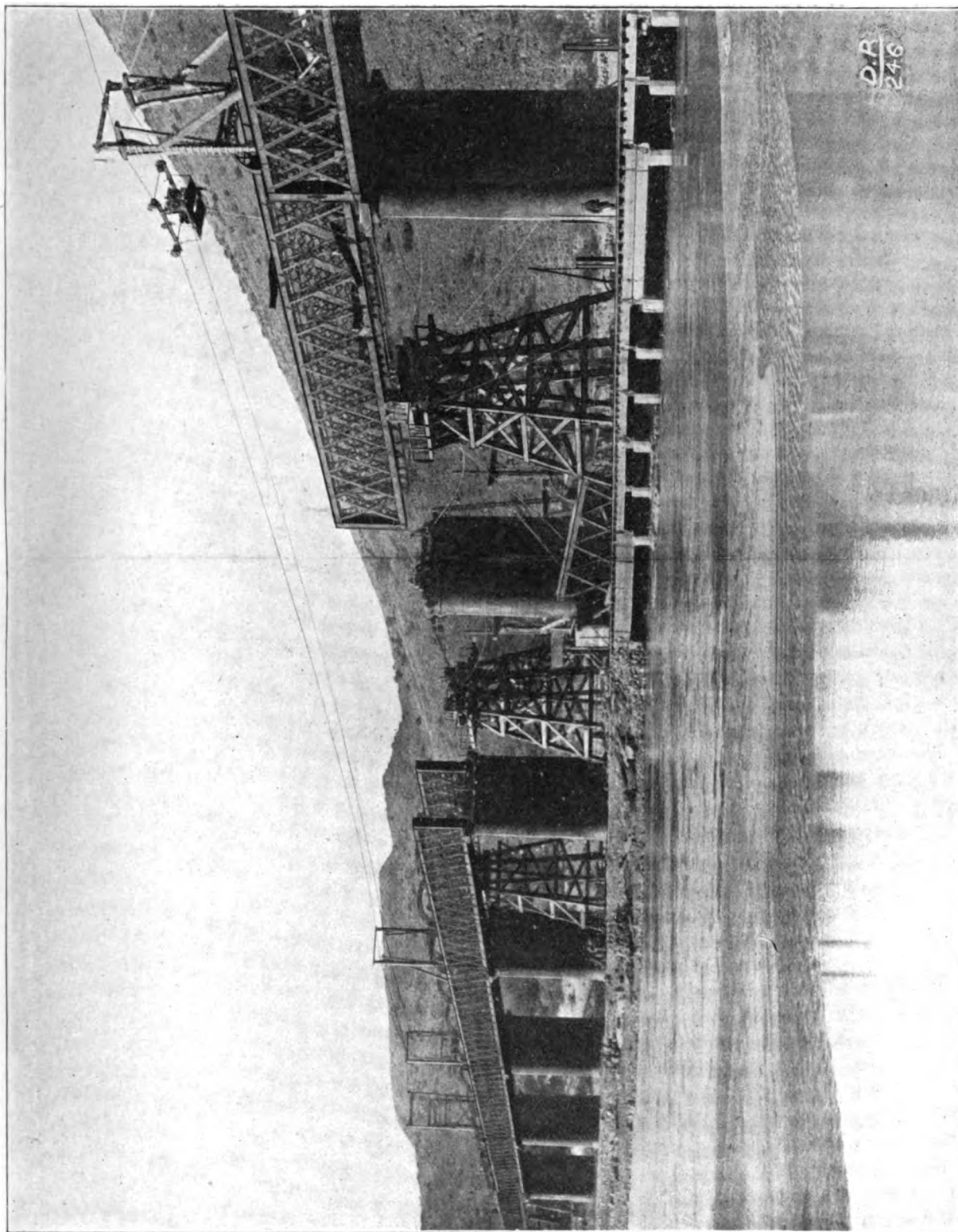


**Orange R. Bridge, Norval's Pont.**  
Near view of destroyed pier and span.



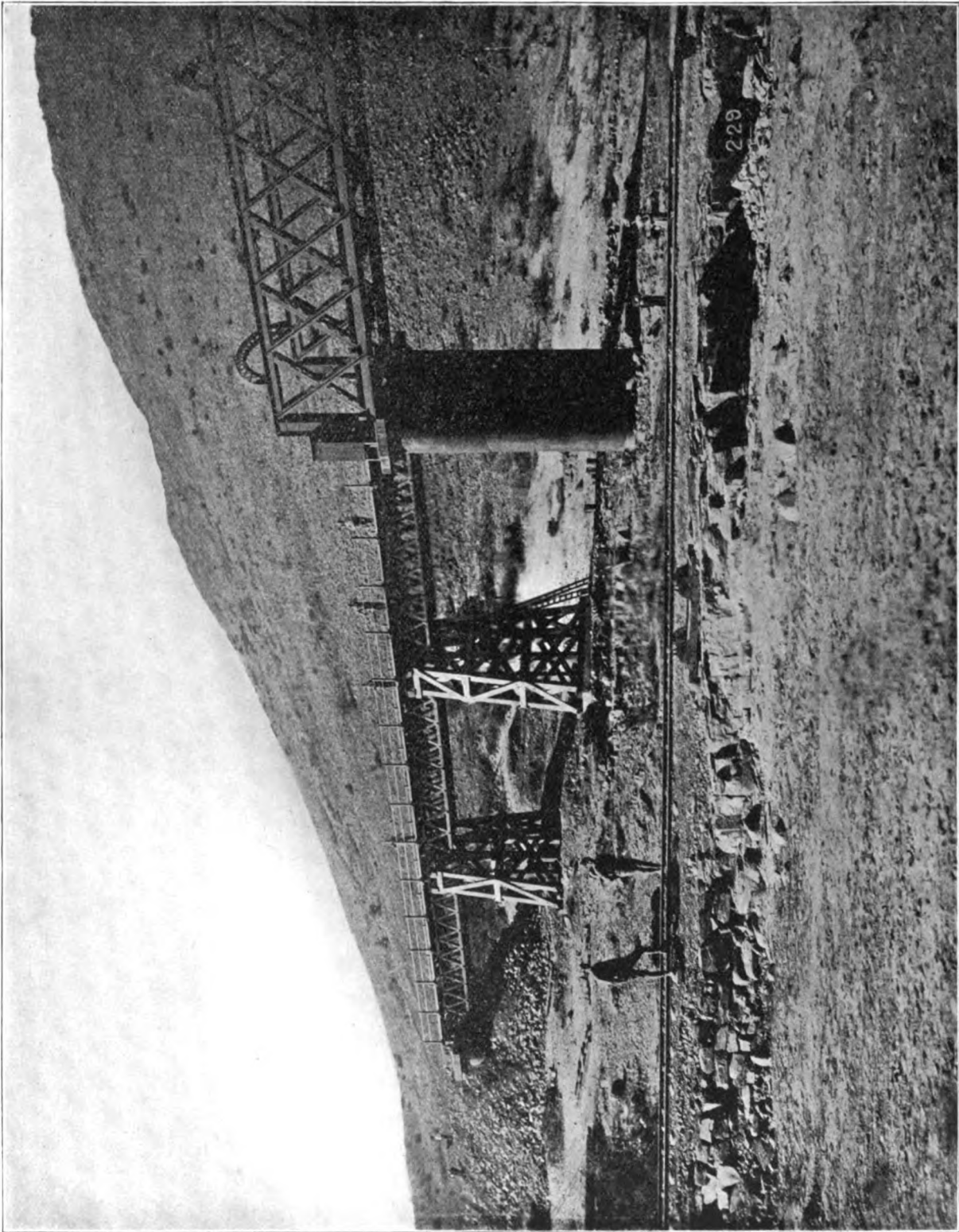
**Orange River Bridge, Norval's Pont.**

Reconstruction; inside view of pair of girders before lifting on trollies for launching.



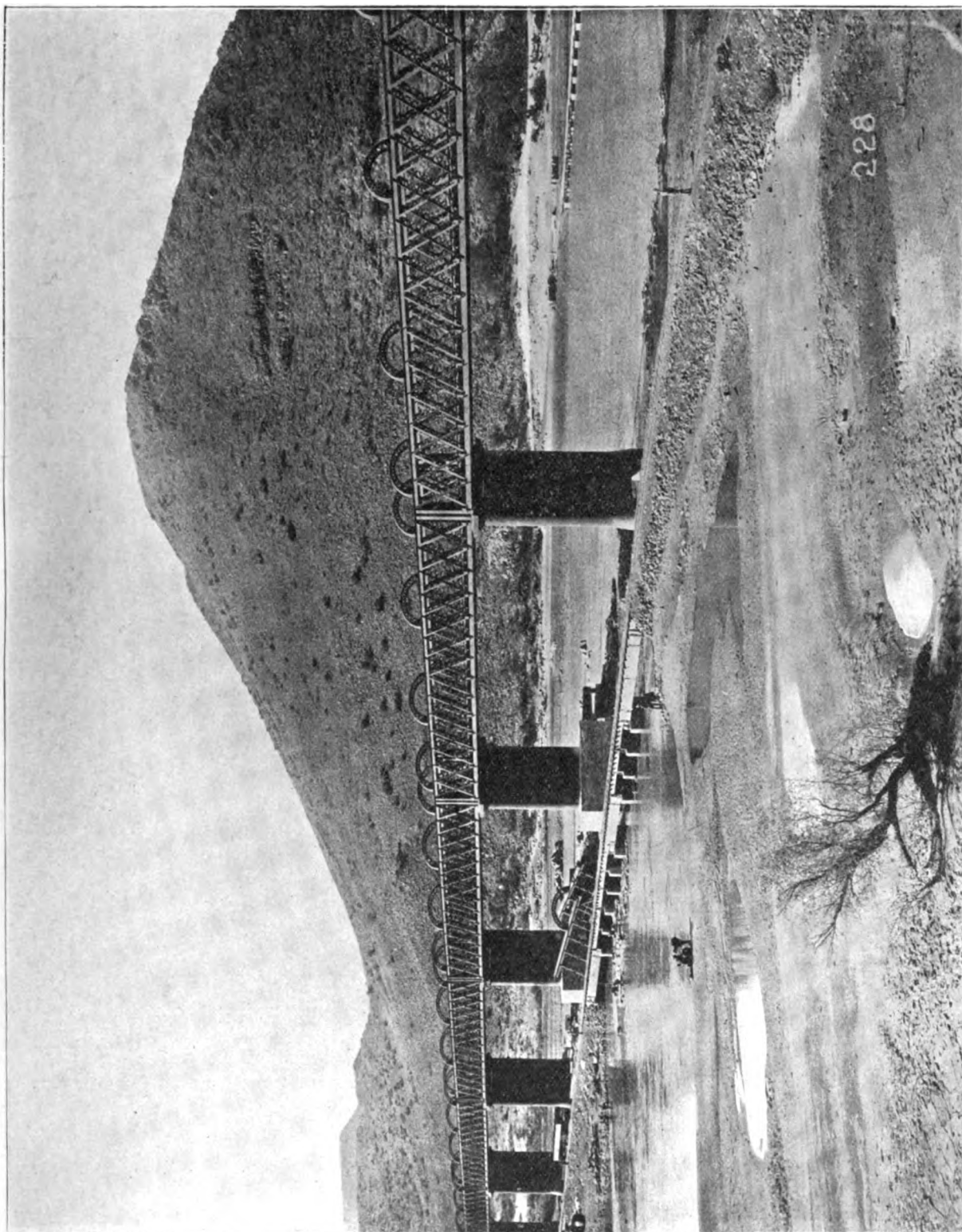
Orange R. Bridge, Norval's Pont.  
Launching girders on reconstruction.

PHOTO 20.

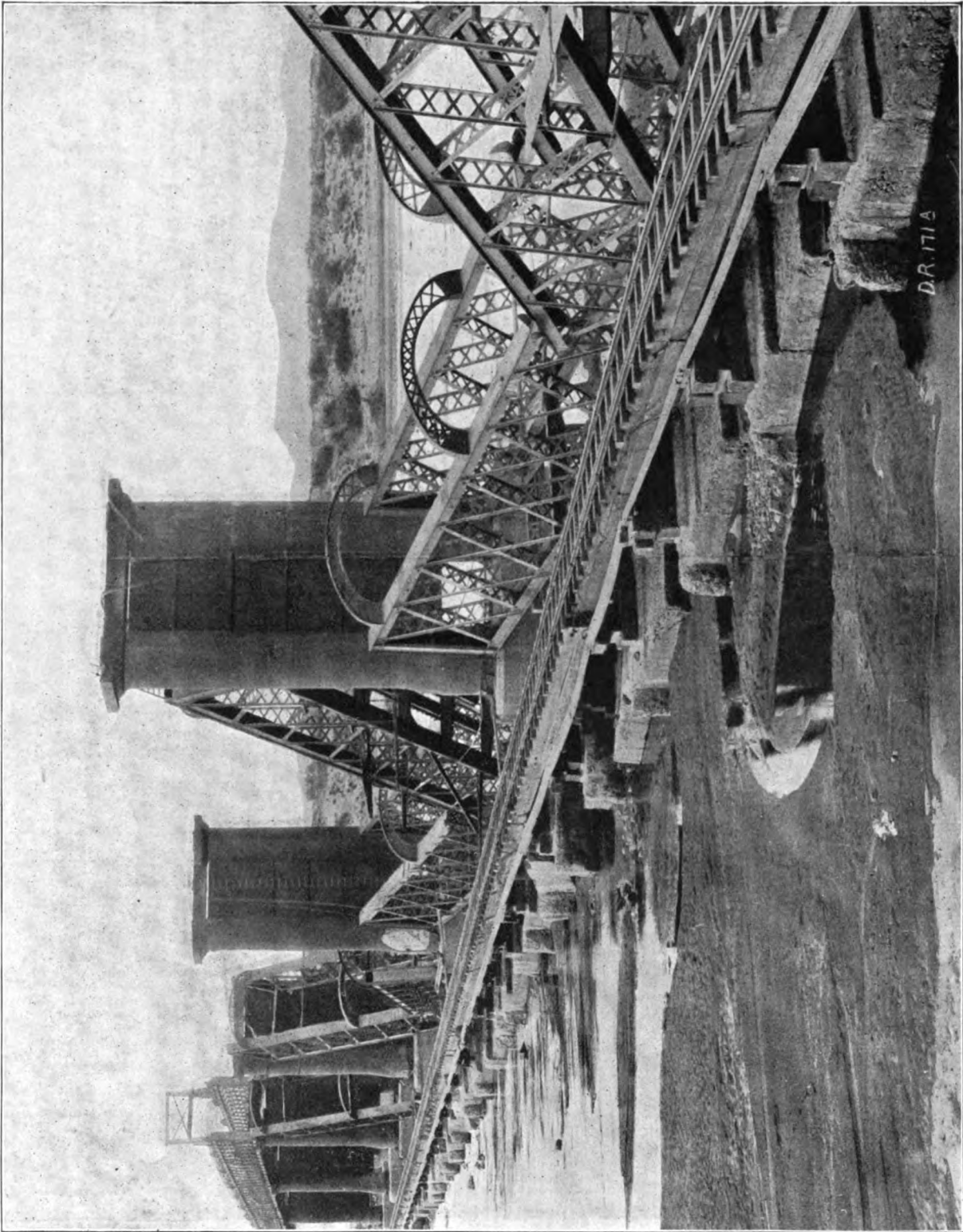


Orange R. Bridge, Norval's Pont.  
Showing Bate's girders at North end.

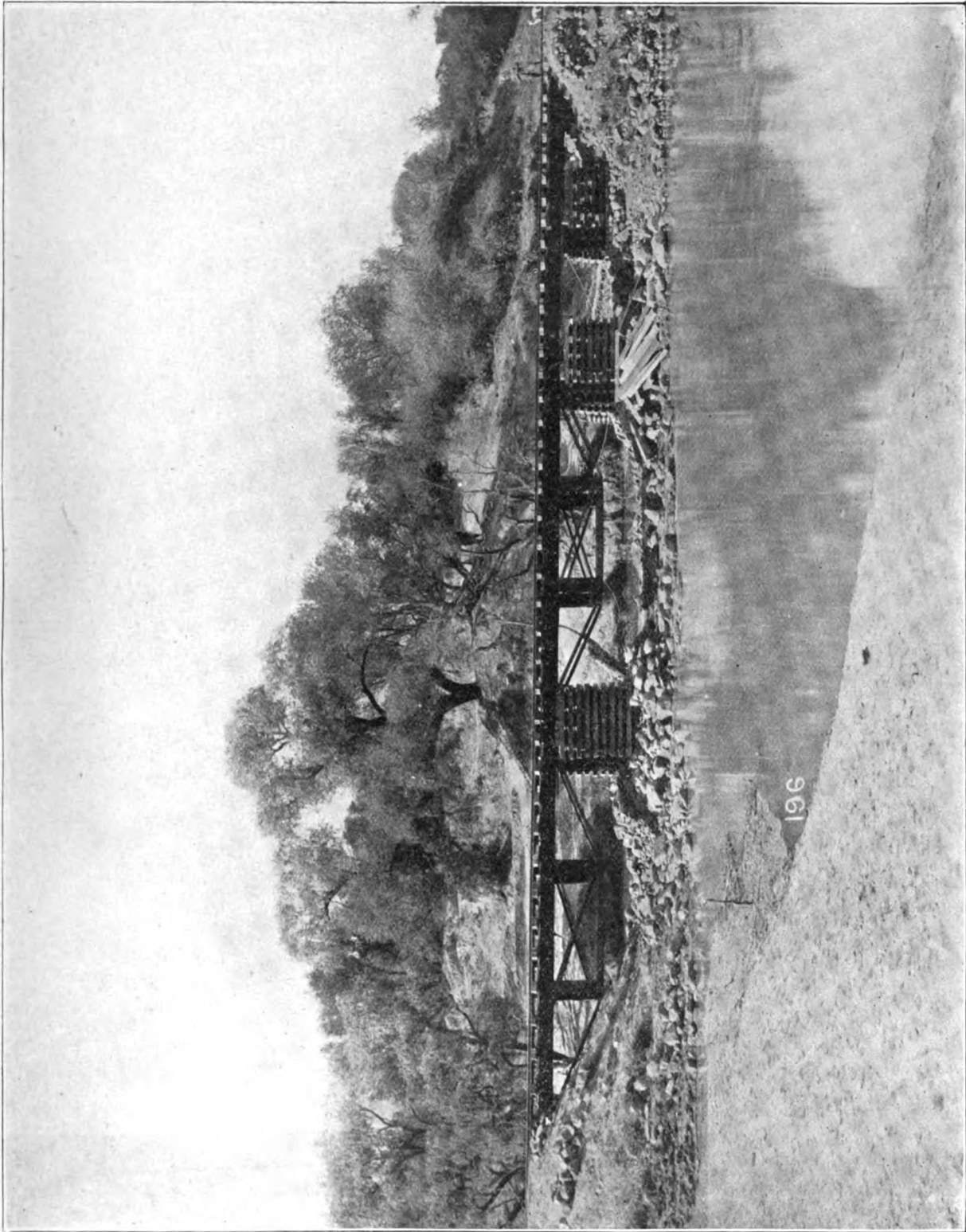




Orange R. Bridge, Norval's Pont, repaired.  
Showing low level deviation alongside and pontoon bridge in background.

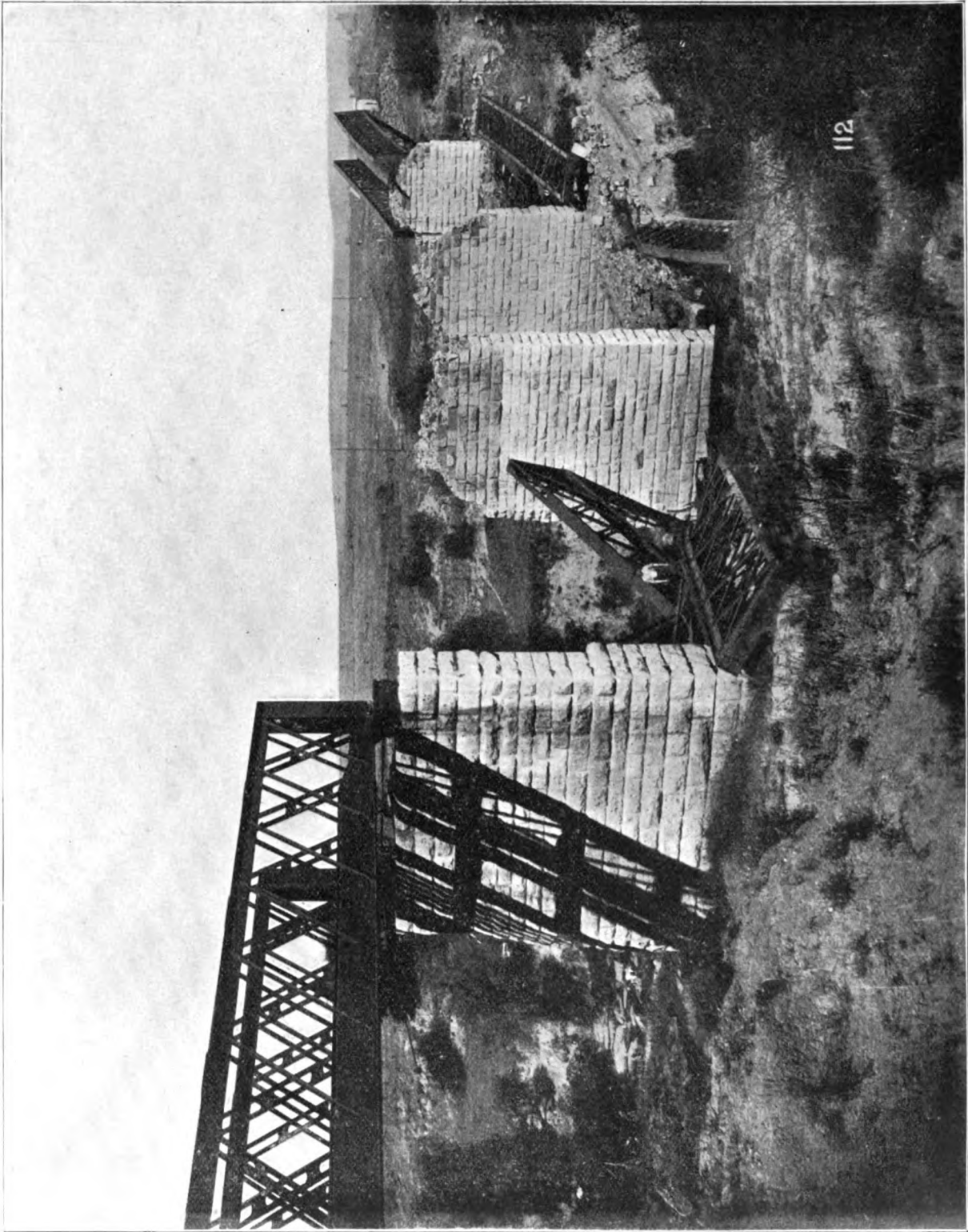


Orange R. Bridge, Bethulia.  
Showing damage by enemy and low level deviation.



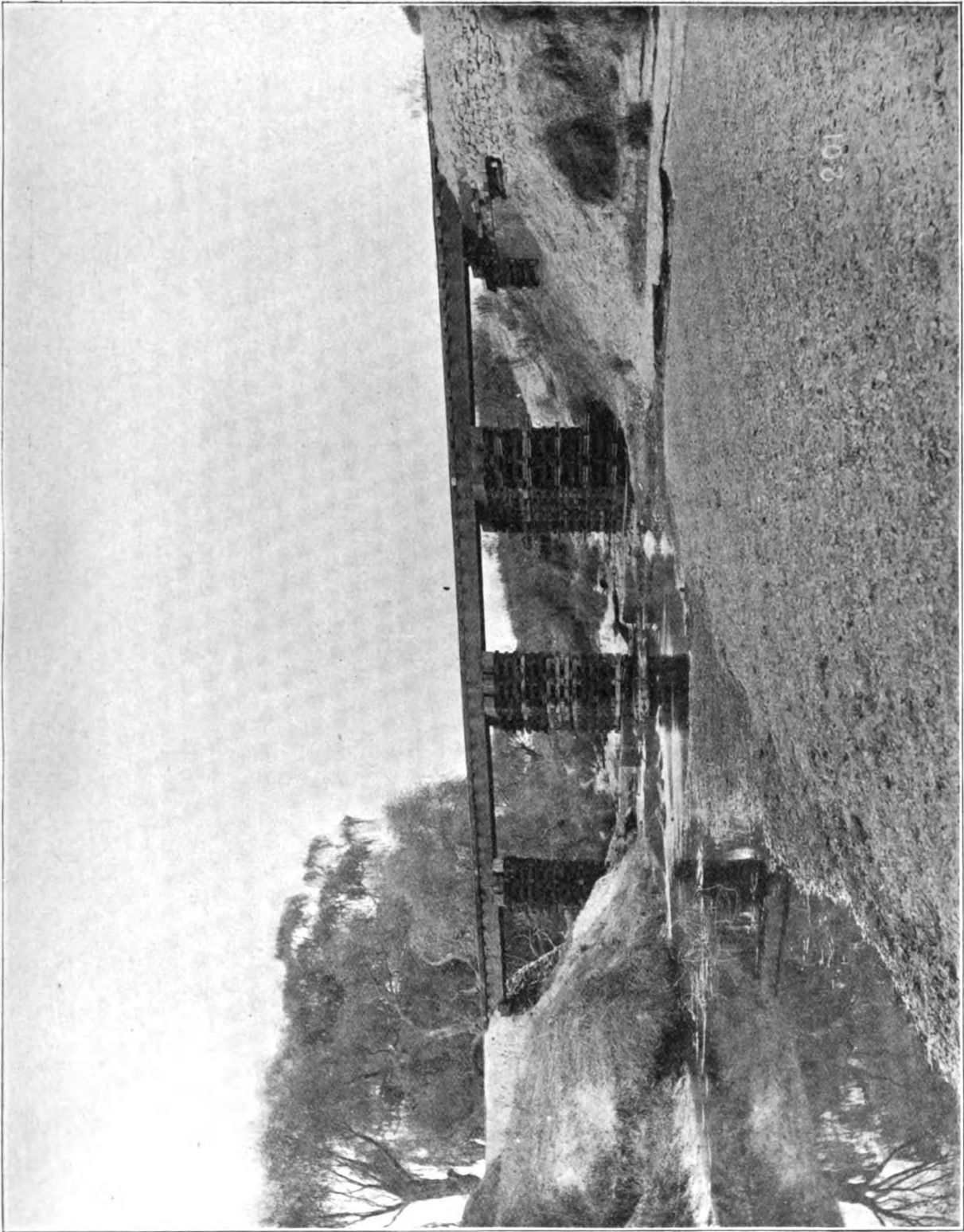
Modder R. Bridge, Glen, Bloemfontein—Pretoria line.  
Bridge of crib piers and trussed beams on deviation.

PHOTO 24.

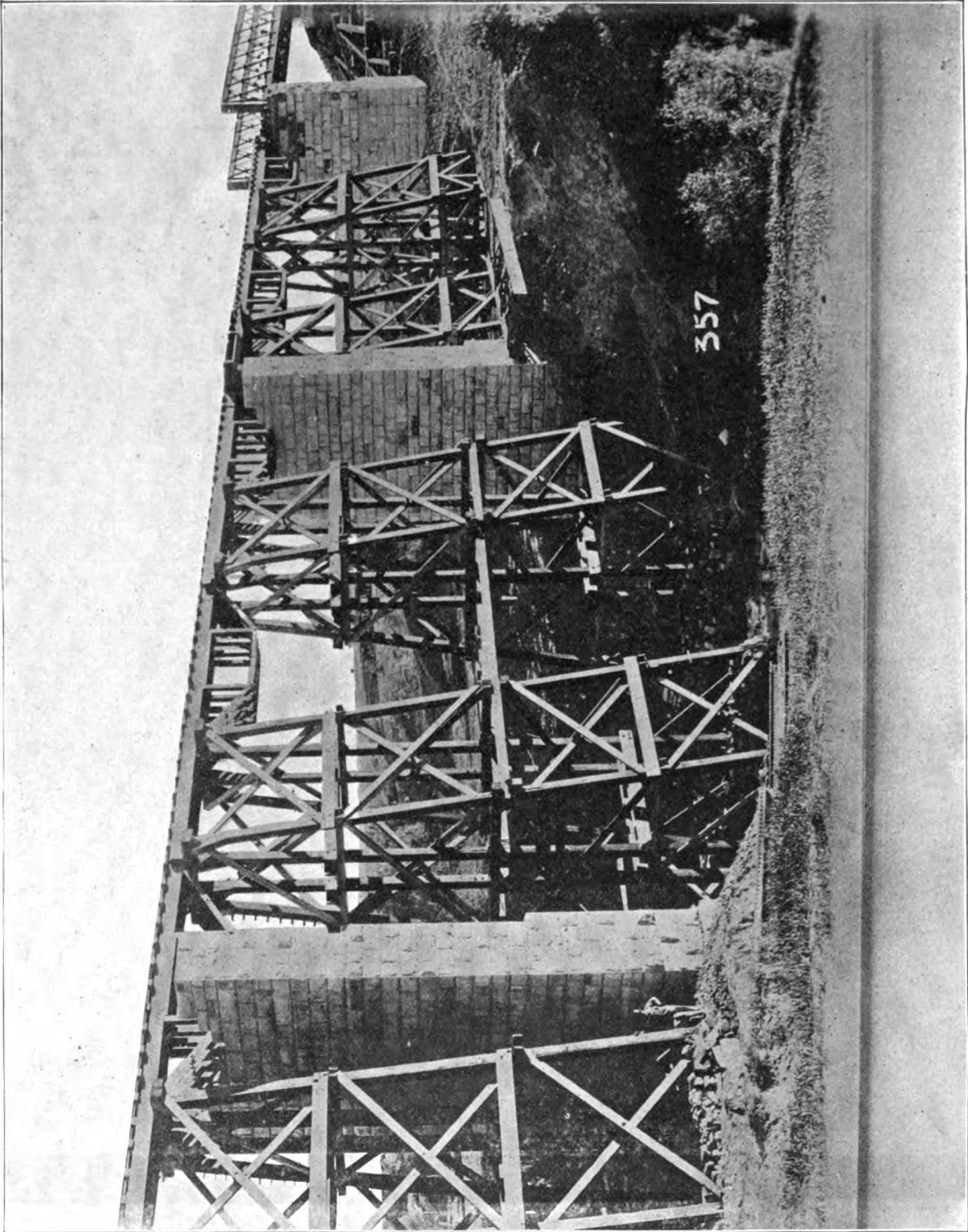


Vet R. Bridge, Bloemfontein—Pretoria line.  
View from North bank, showing damage by enemy.

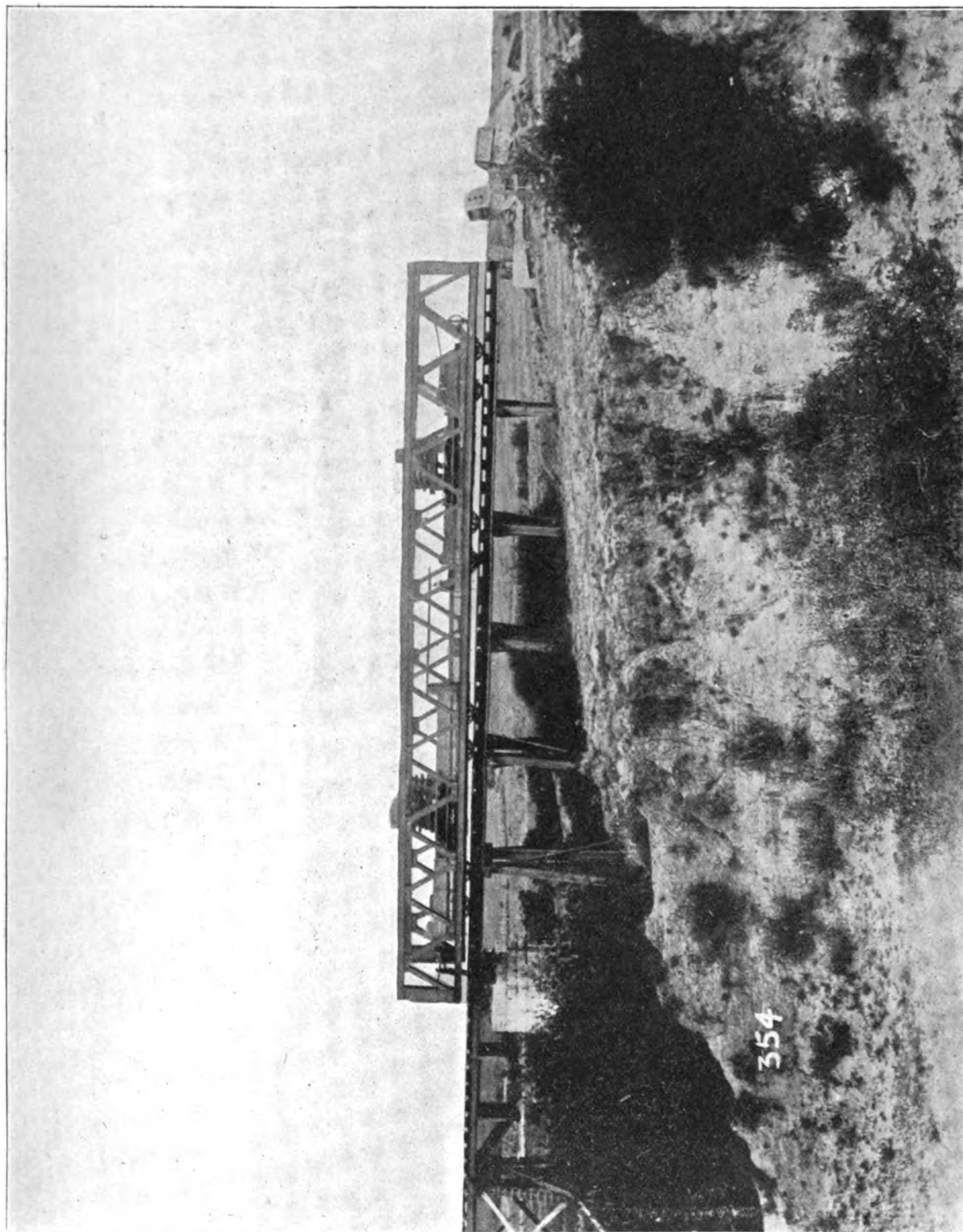




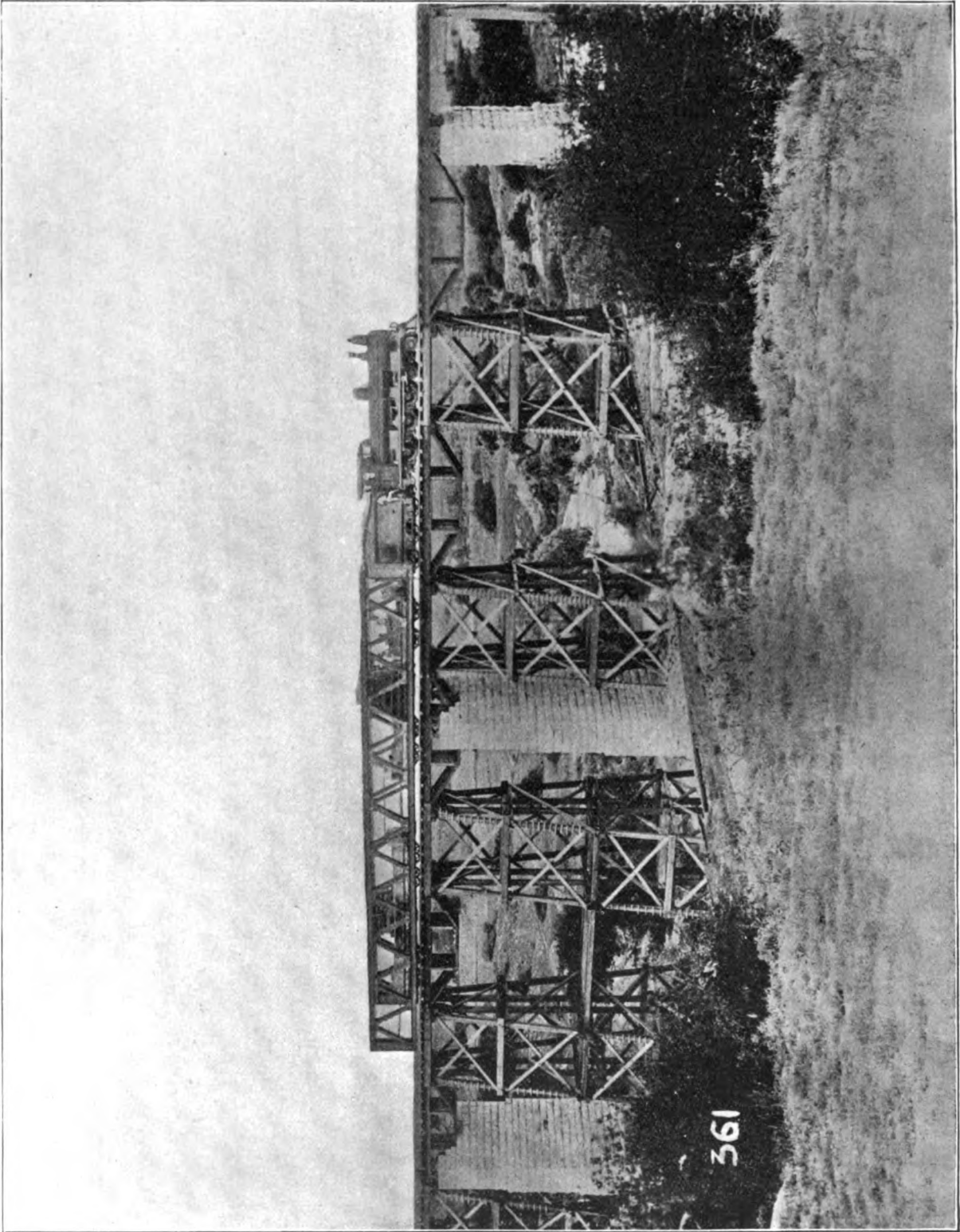
Vet R. Bridge, Bloemfontein—Pretoria line.  
Skew bridge on deviation.



Vet R. Bridge, Bloemfontein—Pretoria line.  
Semi-permanent bridge.

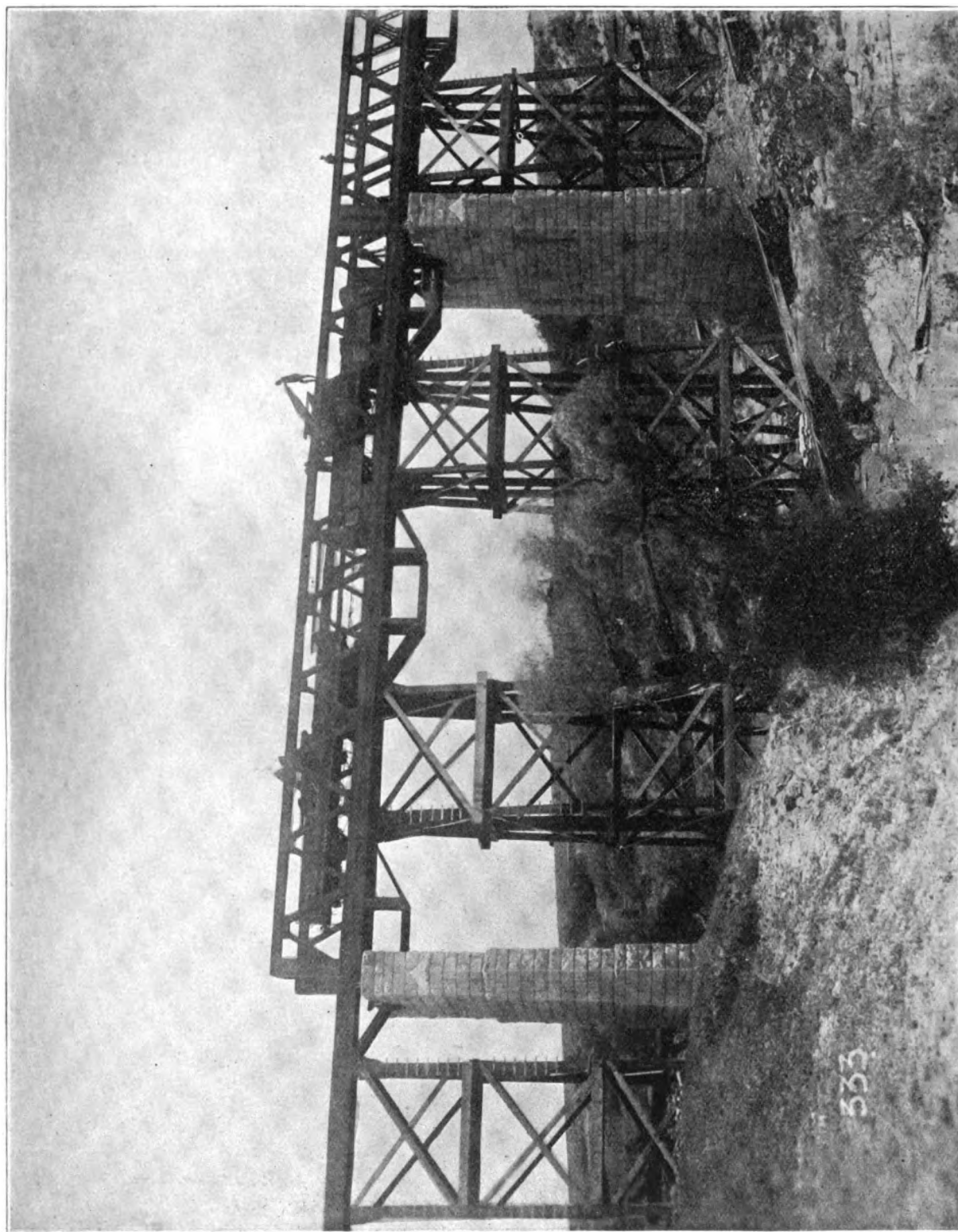


Vet R. Bridge, Bloemfontein—Pretoria line.  
Girders waiting to be drawn out during reconstruction.

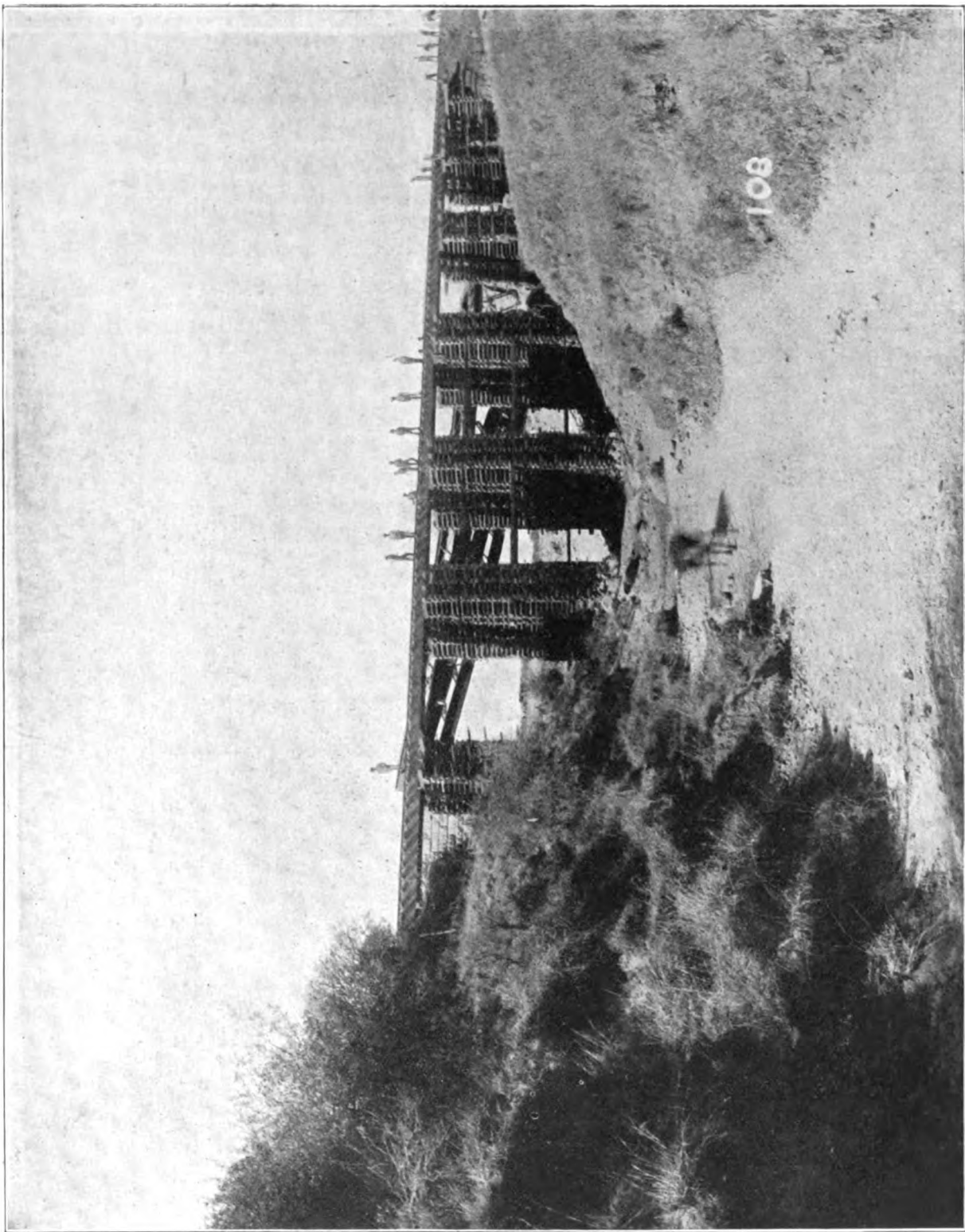


Vet R. Bridge, Bloemfontein—Pretoria line.  
Locomotive drawing girders out during reconstruction.

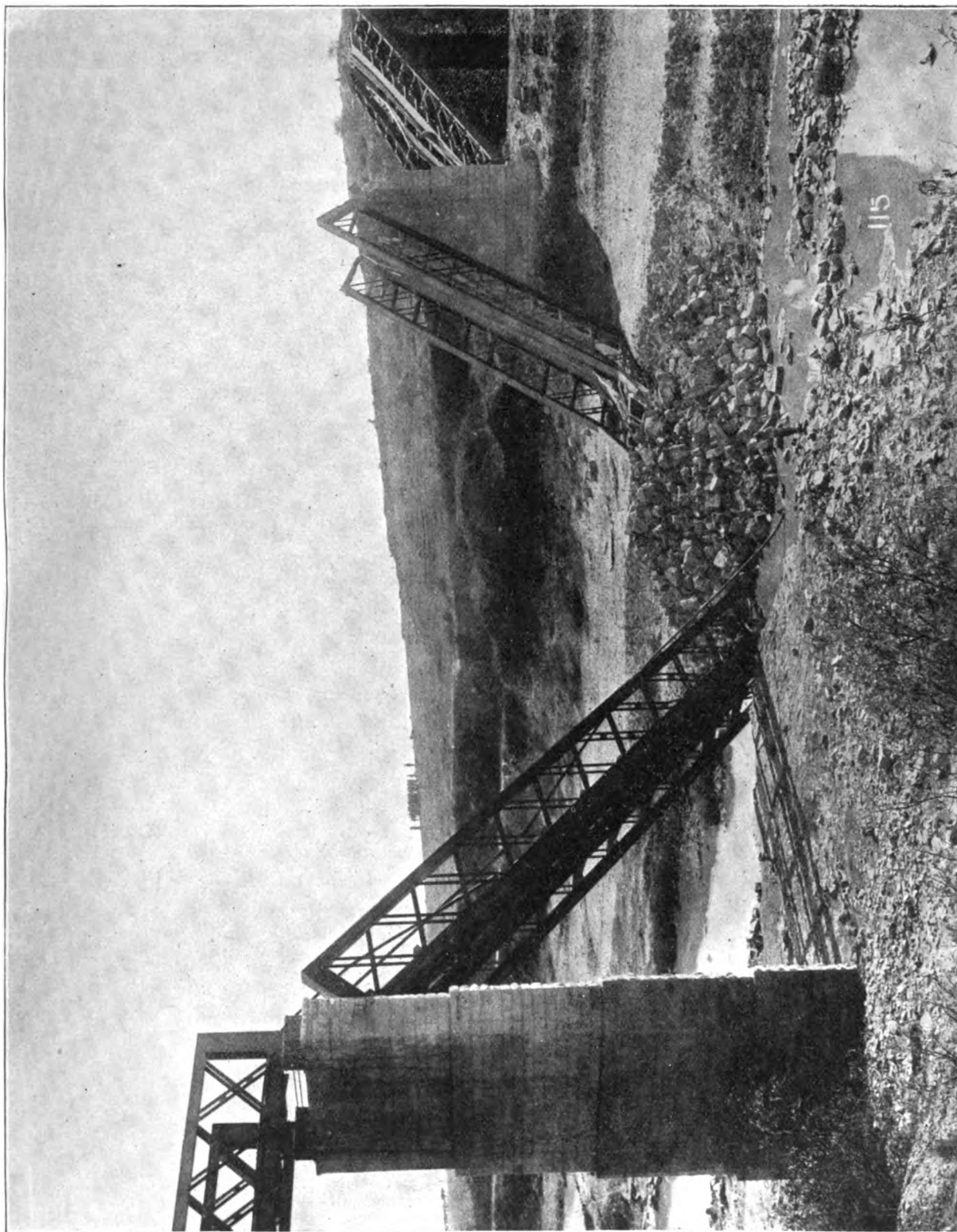




Vet R. Bridge, Bloemfontein—Pretoria line.  
Launching girders during reconstruction.

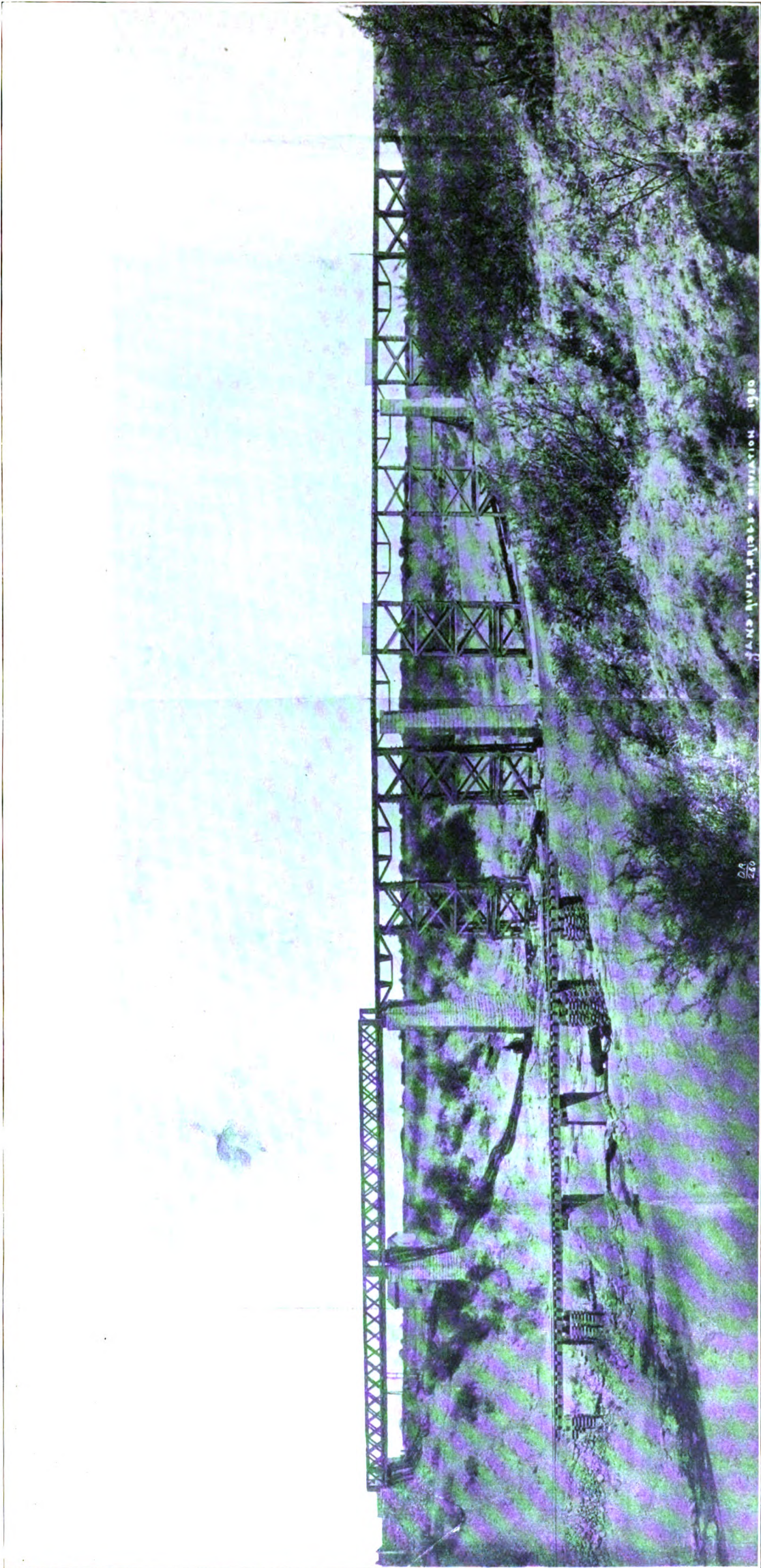


Doorn Spruit Bridge, Bloemfontein – Pretoria line.  
Temporary bridge.



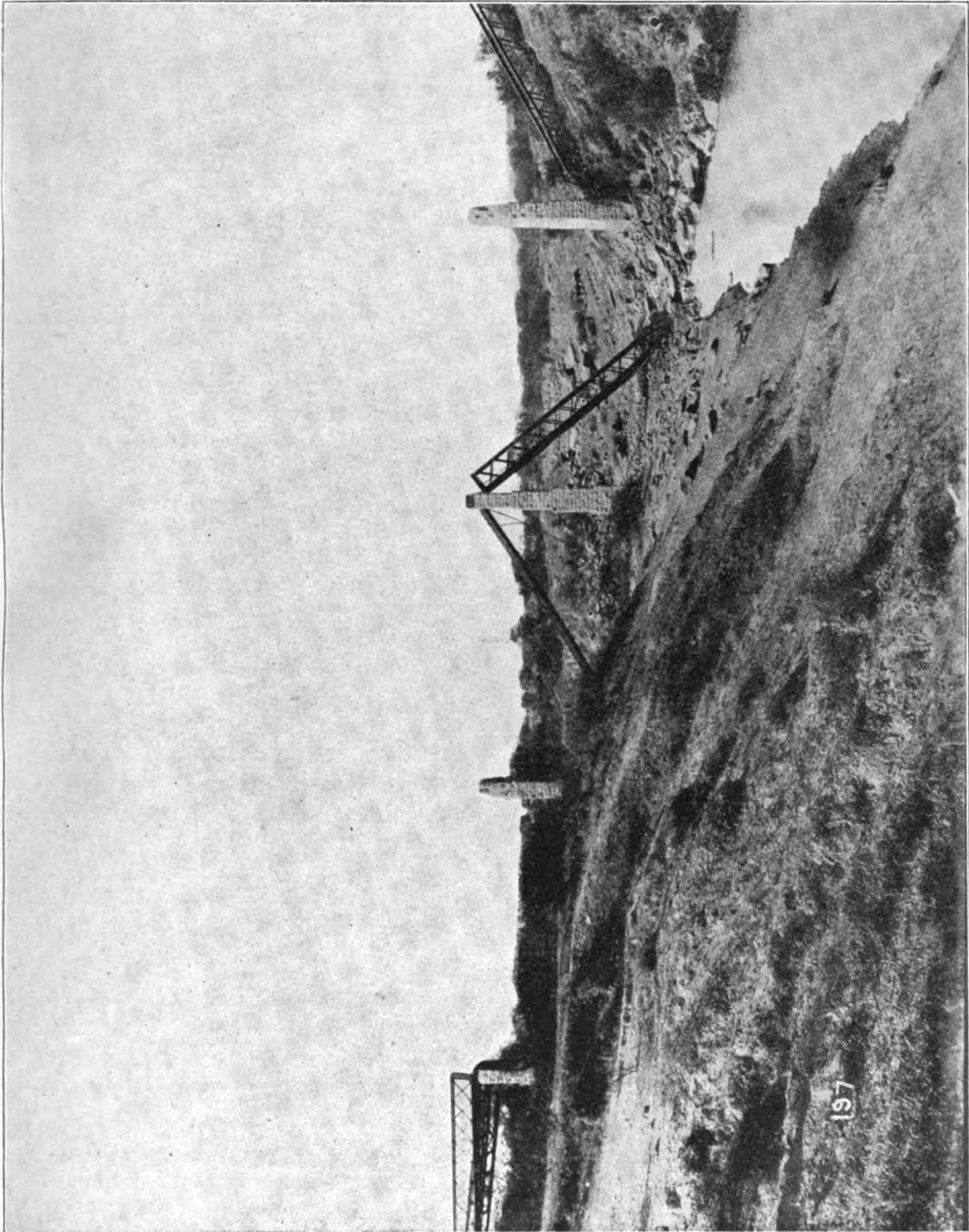
Zand R. Bridge, Bloemfontein—Pretoria line.  
View from South bank, showing damage by enemy.



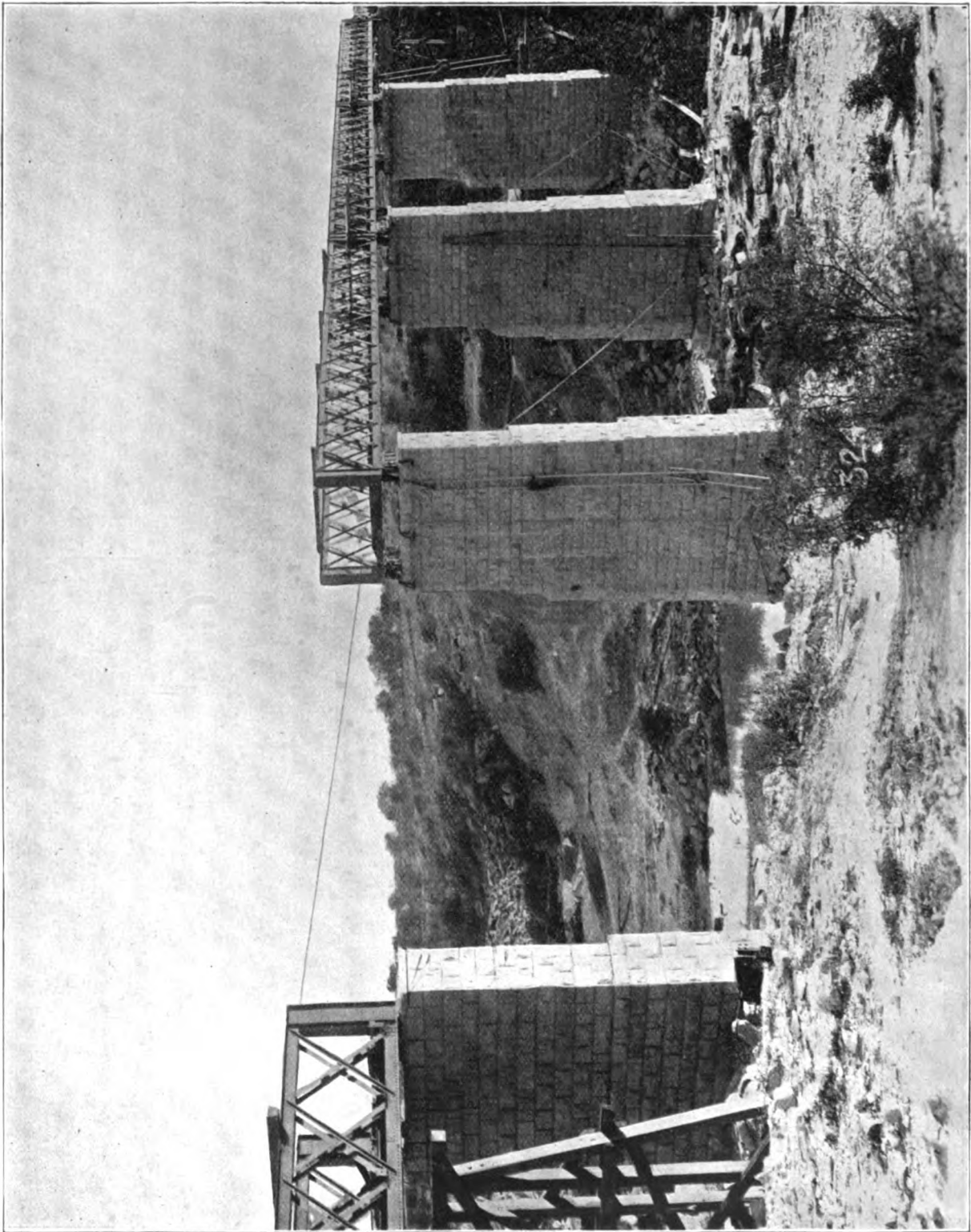


Zand R. Bridge, Bloemfontein—Pretoria line.  
Semi-permanent reconstruction.

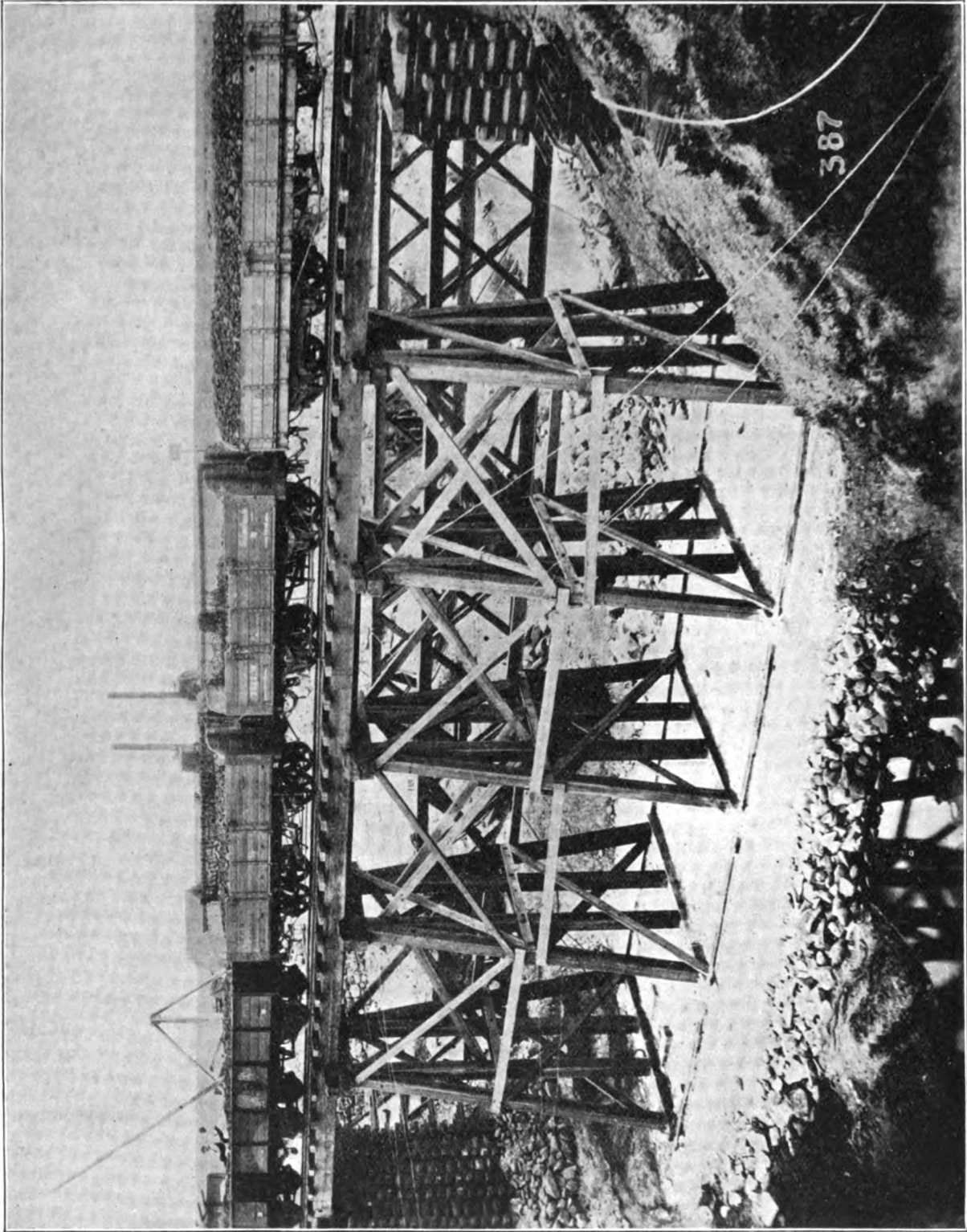




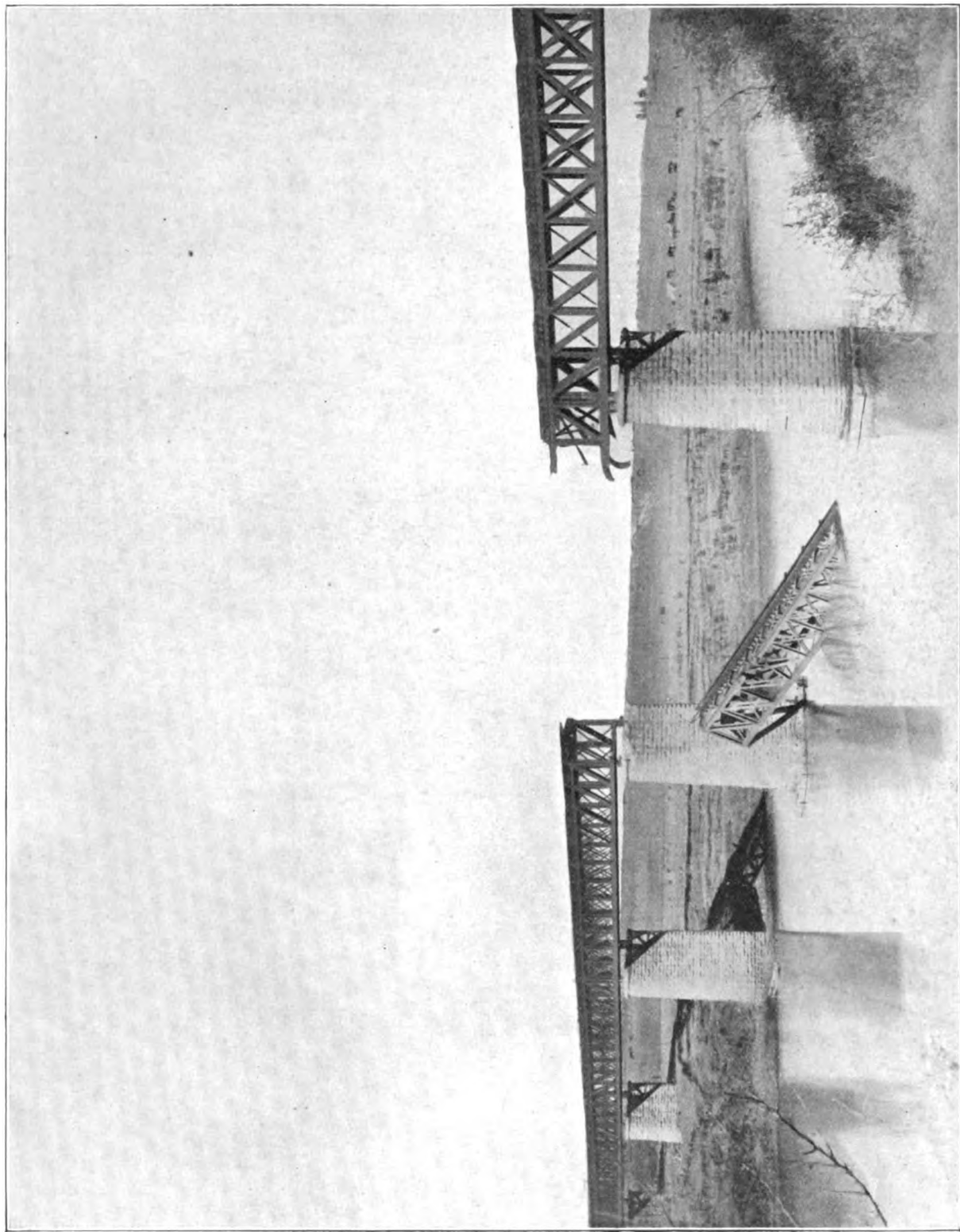
Valsch R. Bridge, Bloemfontein—Pretoria line.  
Showing damage by enemy.



Valsch R. Bridge, Bloemfontein—Pretoria line.  
Launching girders during reconstruction.

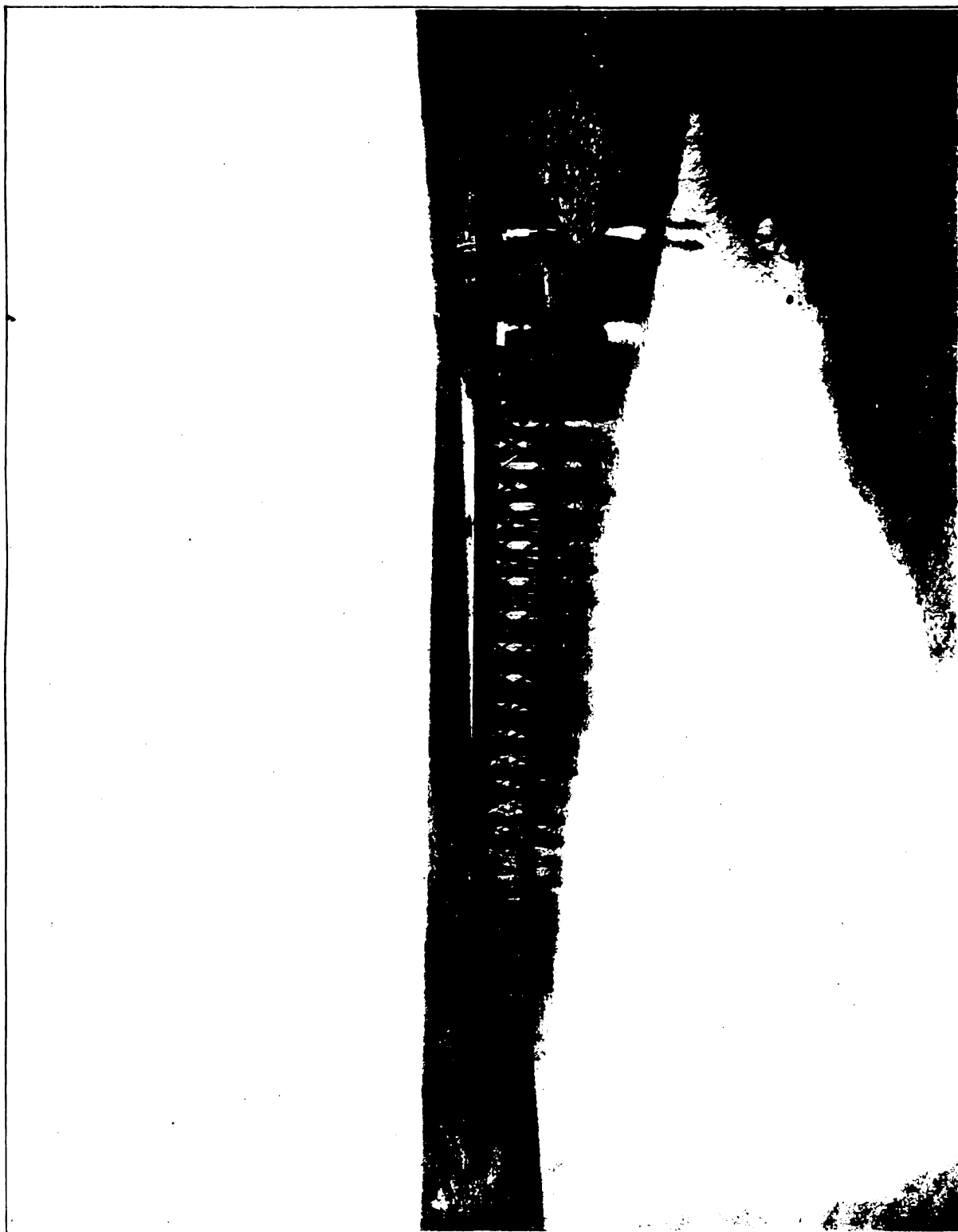


Rhenoster R. Bridge, Bloemfontein—Pretoria line.  
Second temporary bridge, replacing bridge burnt by enemy.



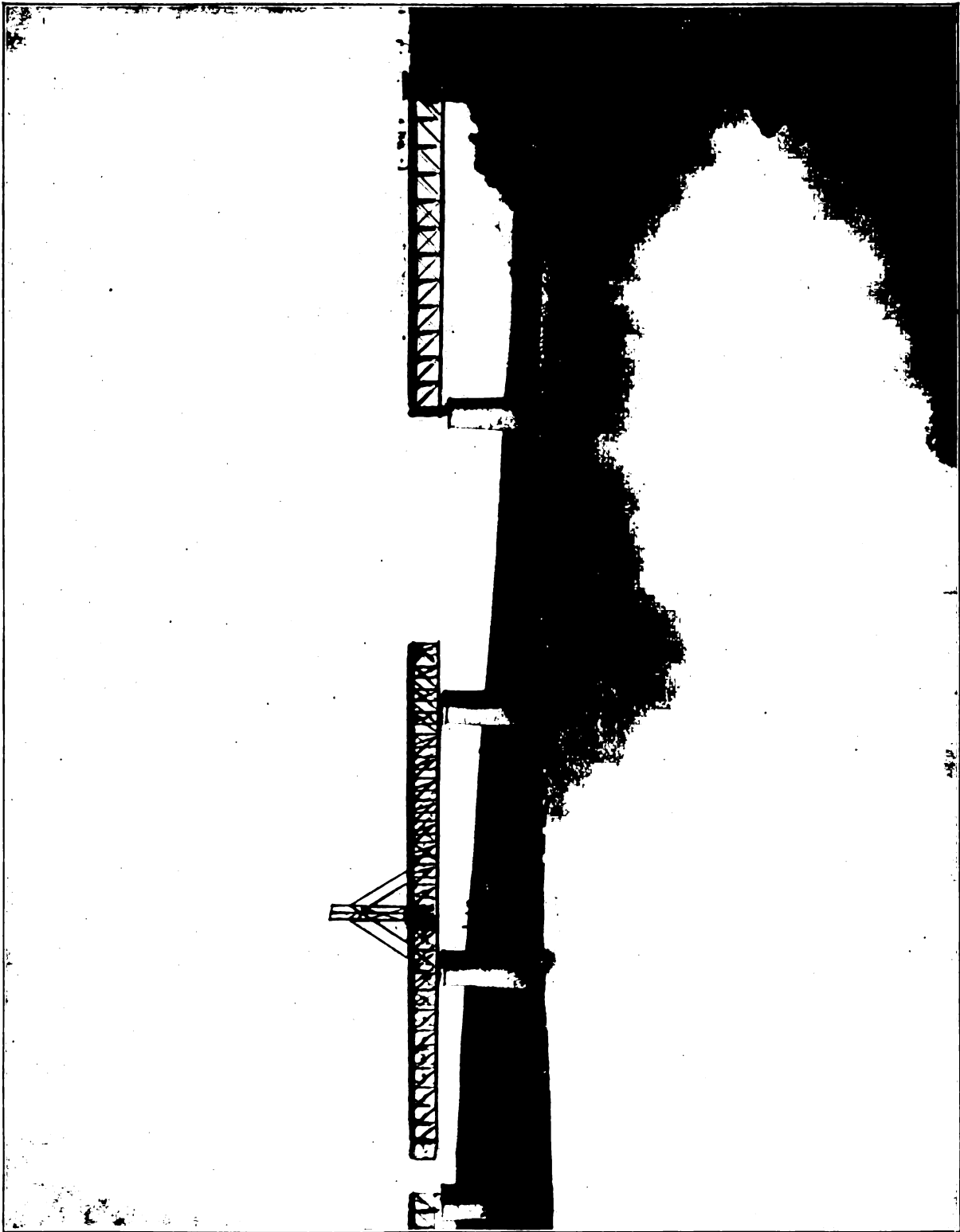
Vaal R. Bridge, Vereeniging, Bloemfontein—Pretoria line.  
Showing damage by enemy.



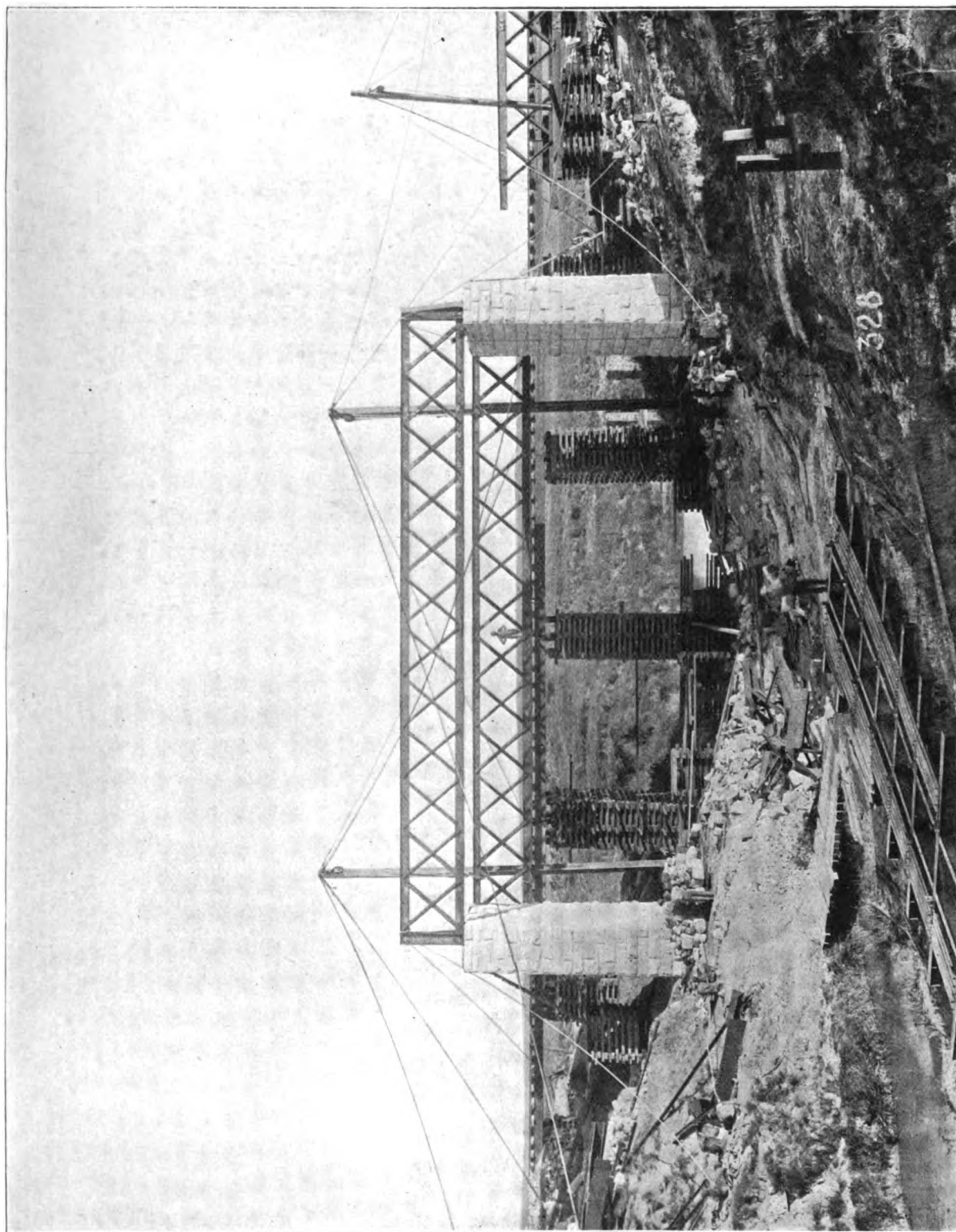


Vaal R. Bridge, Vereeniging, Bloemfontein—Pretoria line  
View from north bank of low level bridge on deviation.

PHOTO 88.



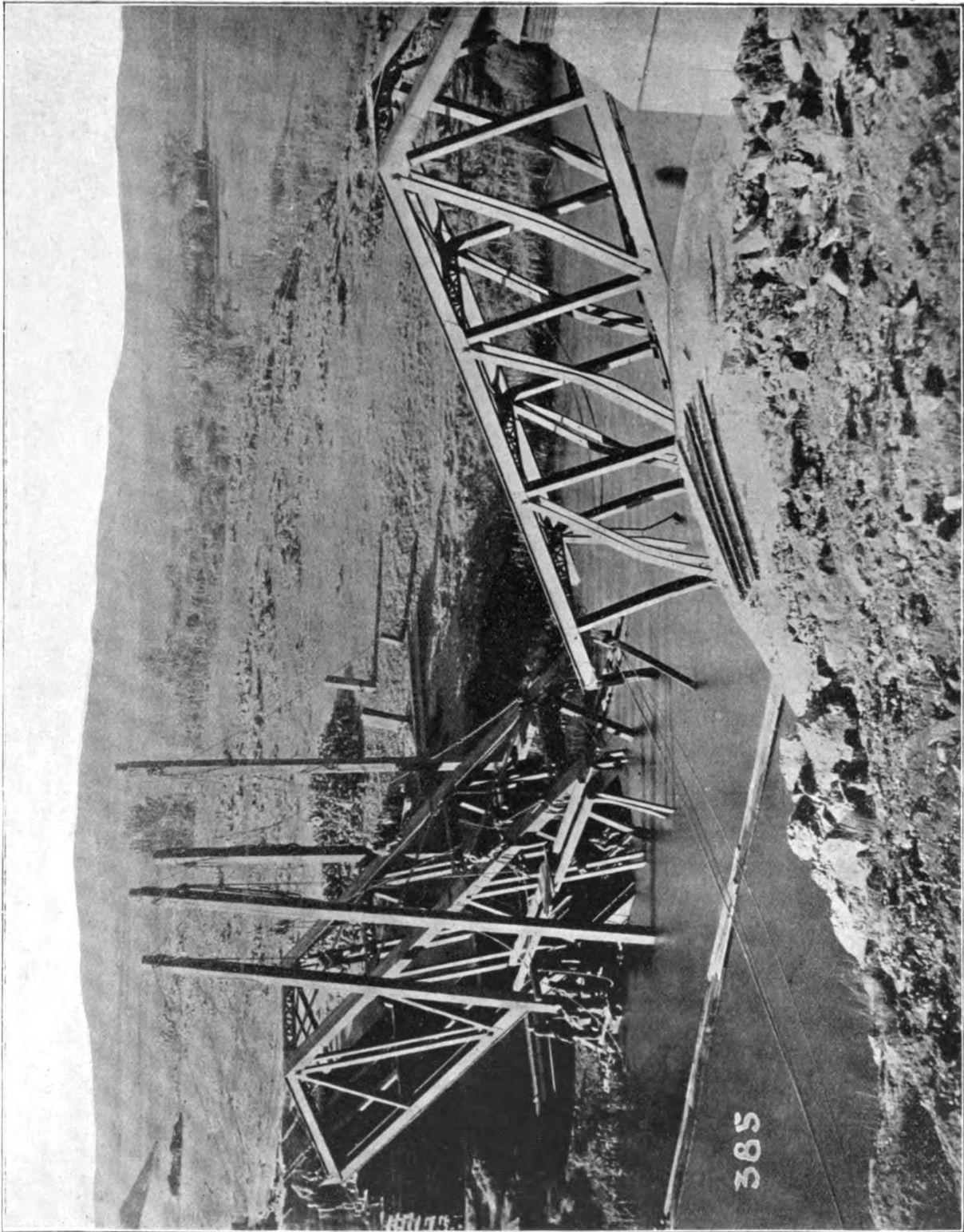
Vaal R. Bridge, Vereeniging, Bloemfontein—Pretoria line.  
Launching girders on reconstruction.



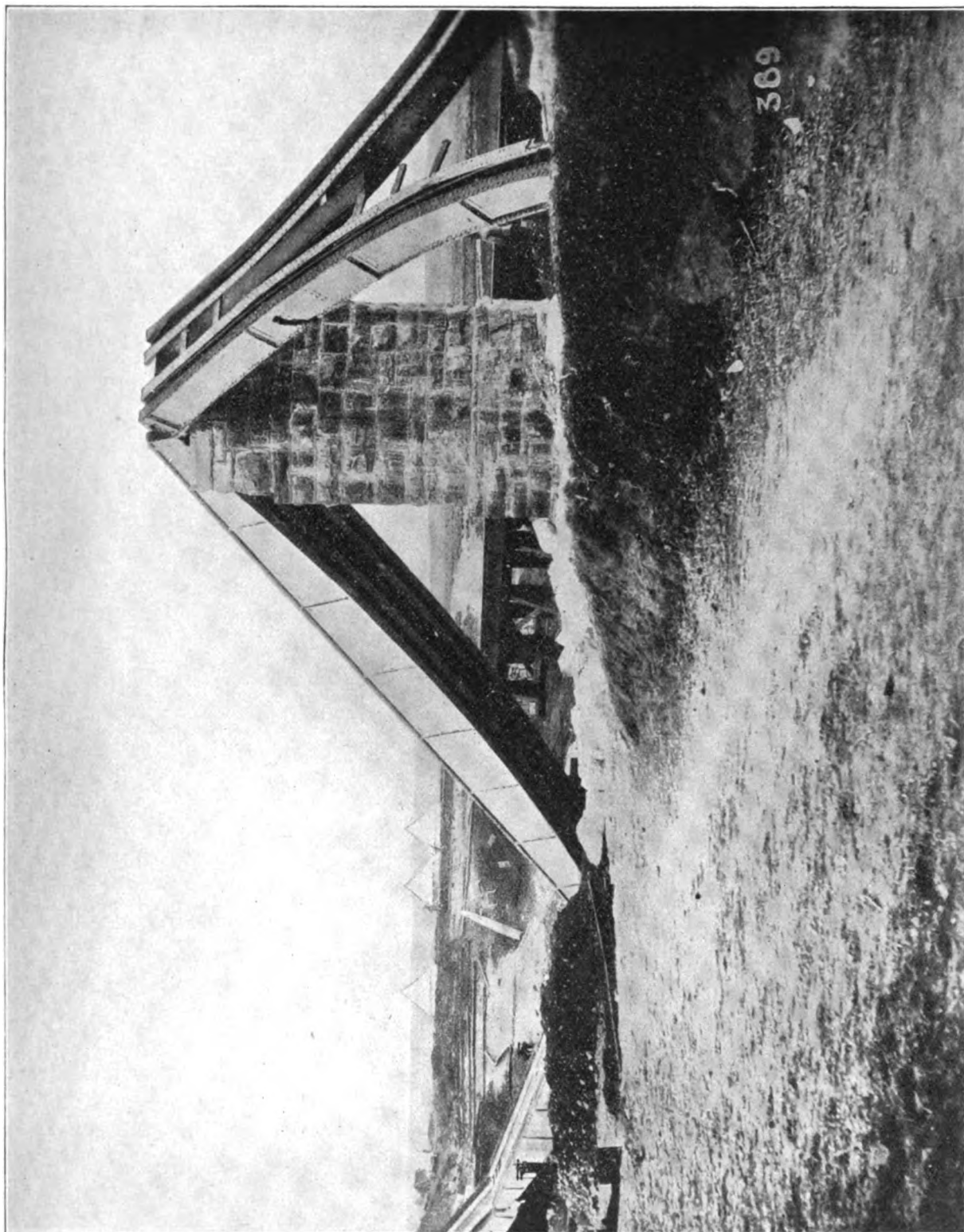
**Taaibosch Spruit Bridge, Bloemfontein—Pretoria line.**

Girders being drawn up for permanent reconstruction ; temporary bridge behind.

PHOTO 40.

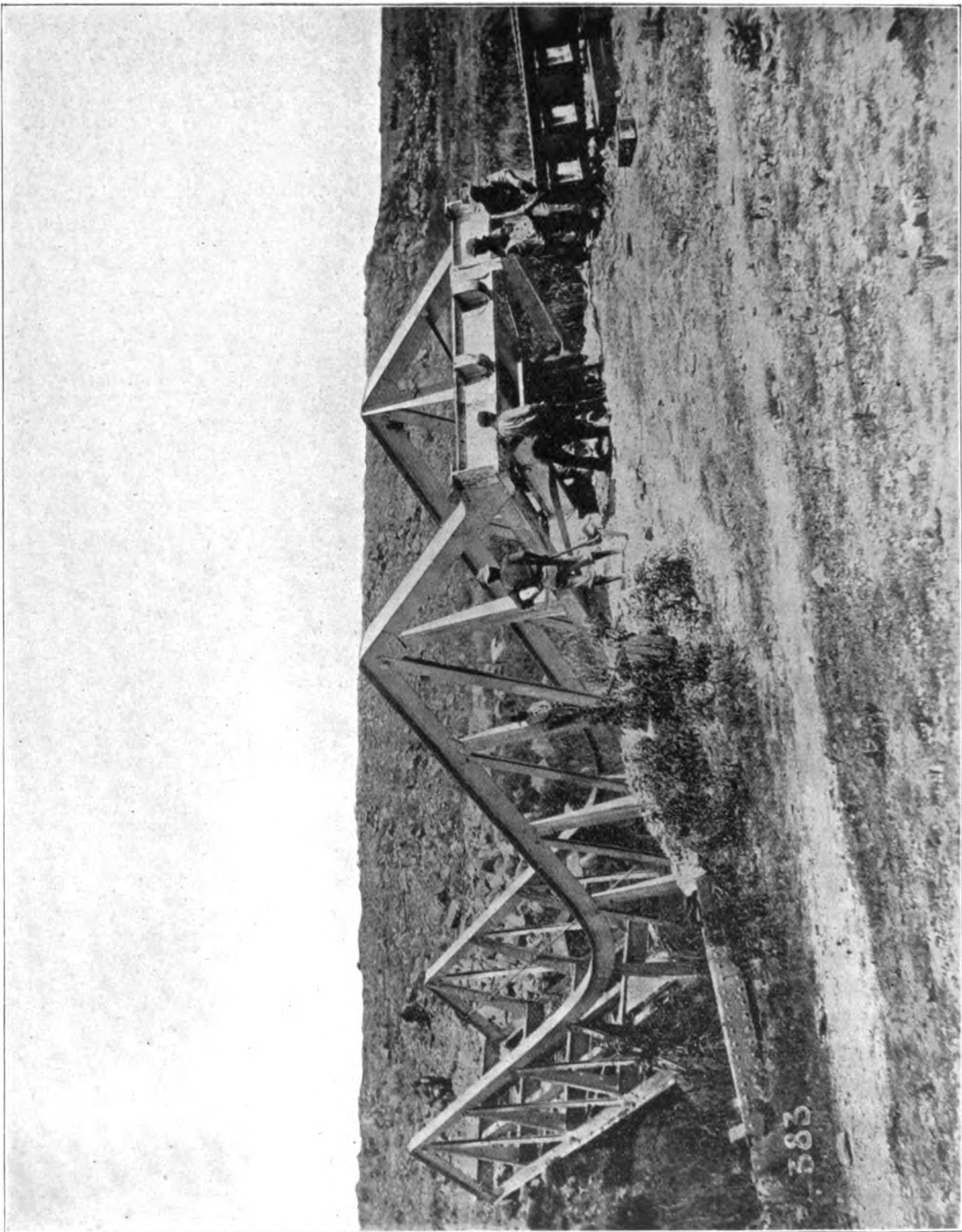


Zuikerbosch Spruit Bridge, Elandsfontein—Natal line.  
Showing damage by enemy.

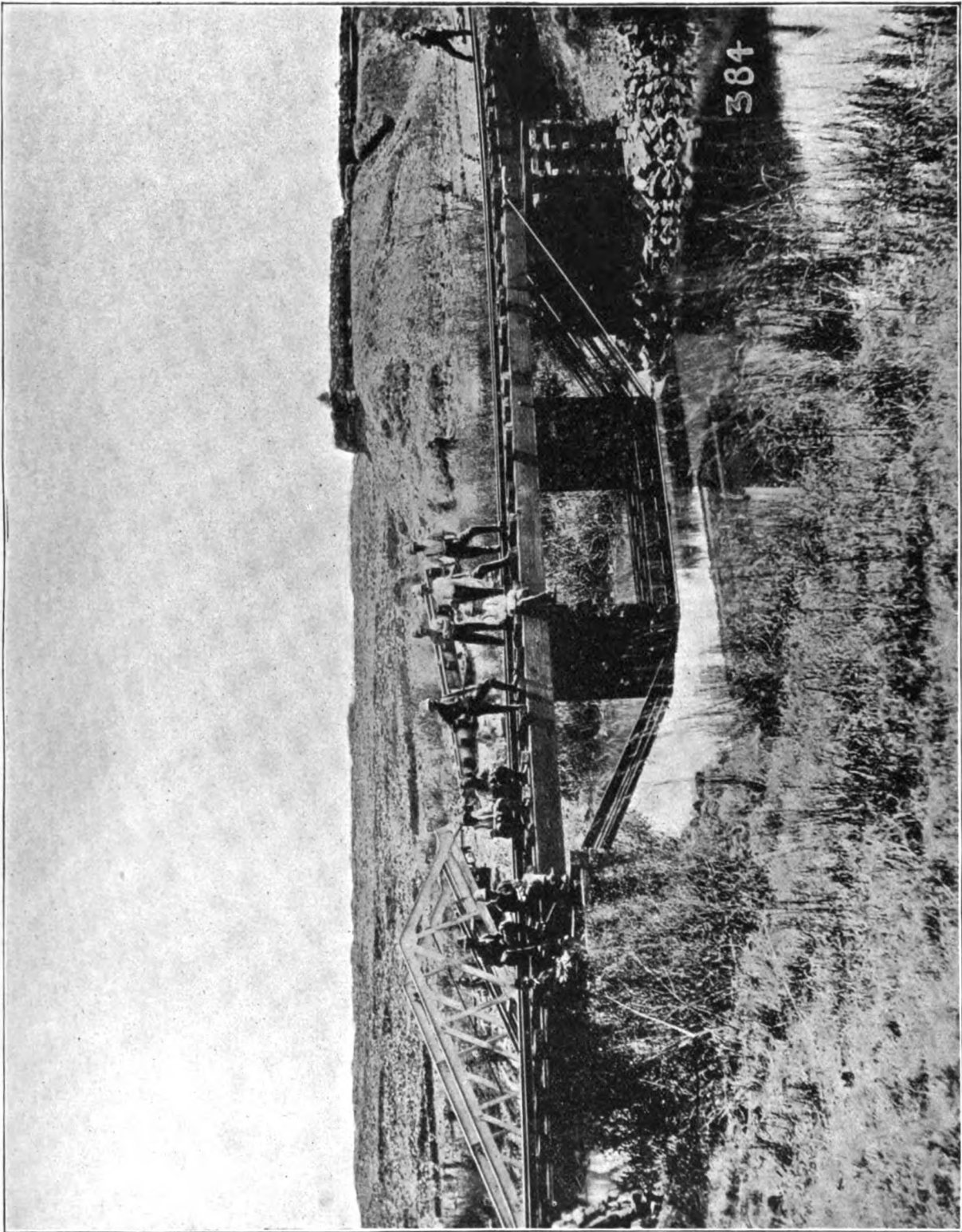


**Bronkhorst Spruit Bridge, Pretoria—Delagoa Bay line.**  
Showing damage by enemy.



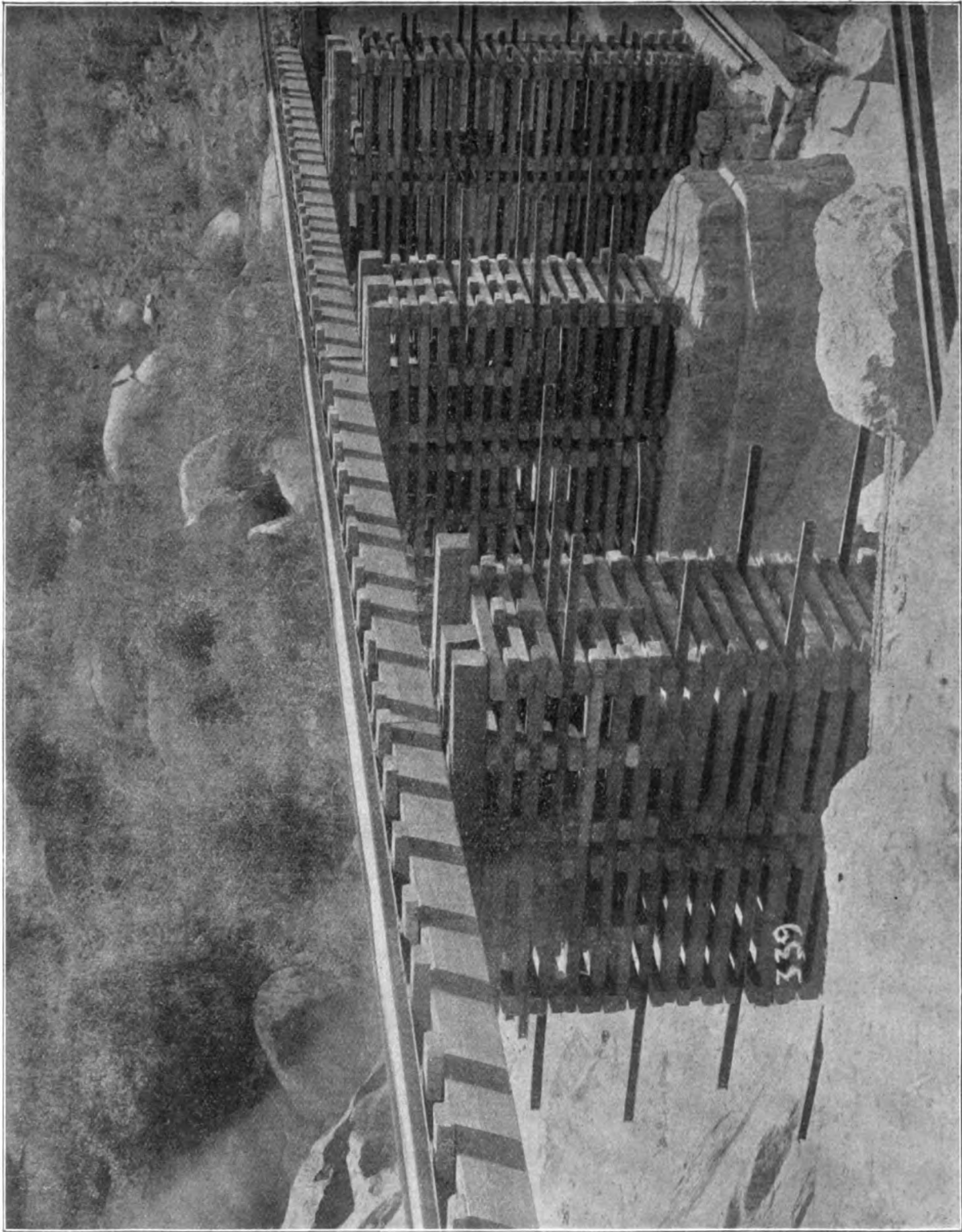


Wilge R. Bridge, Pretoria—Delagoa Bay line.  
Showing damage by enemy.



Wilge R. Bridge, Pretoria—Delagoa Bay line.  
Temporary bridge with 50-foot span trussed beams.

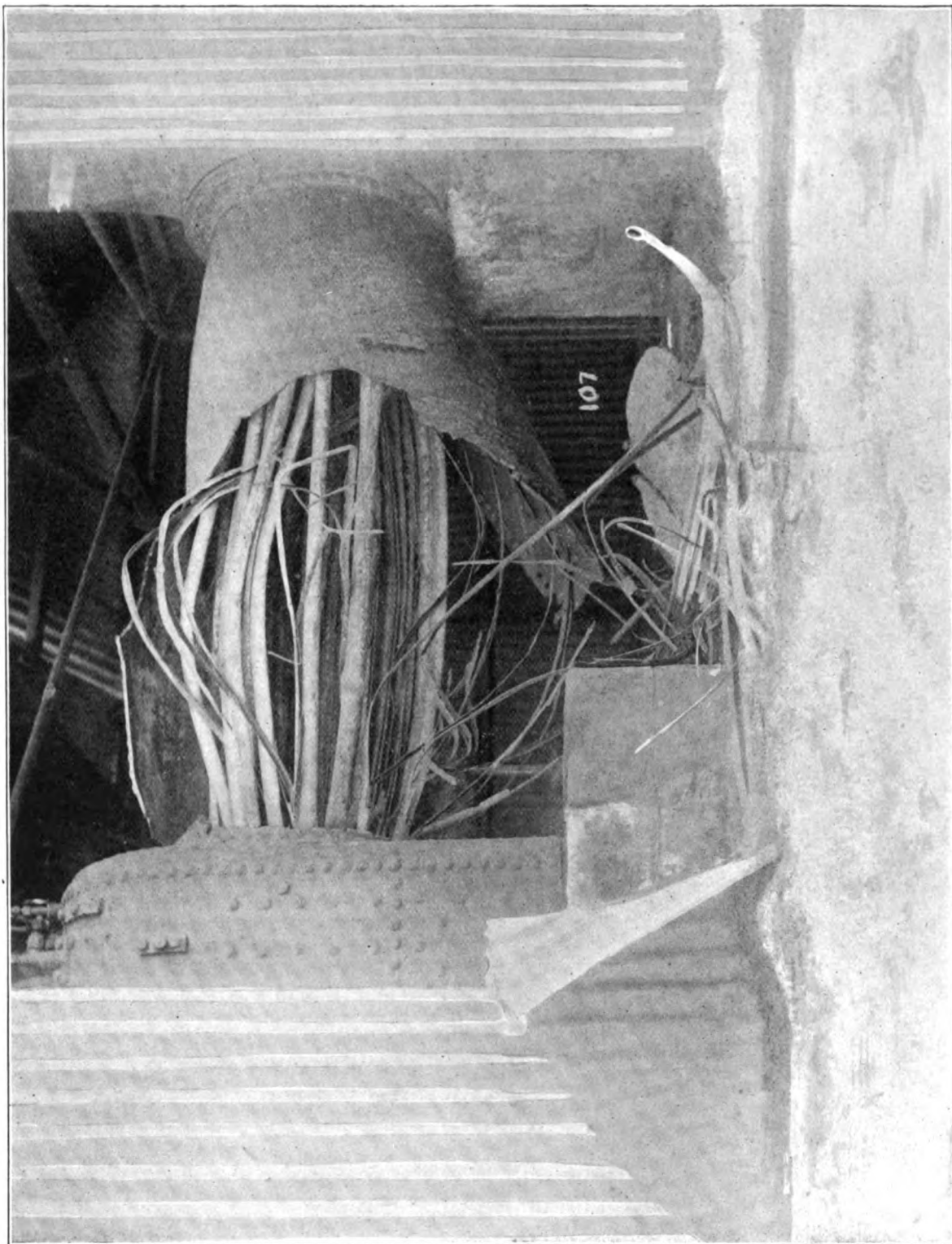




Krokodil Poort Bridge, Pretoria—Delagoa Bay line.  
Temporary bridge with crib piers.



**Kaap R. Bridge, Kaapmuiden, Pretoria—Delagoa Bay line.  
Showing bridge damaged by enemy, deviation bridge, and wreck of train.**



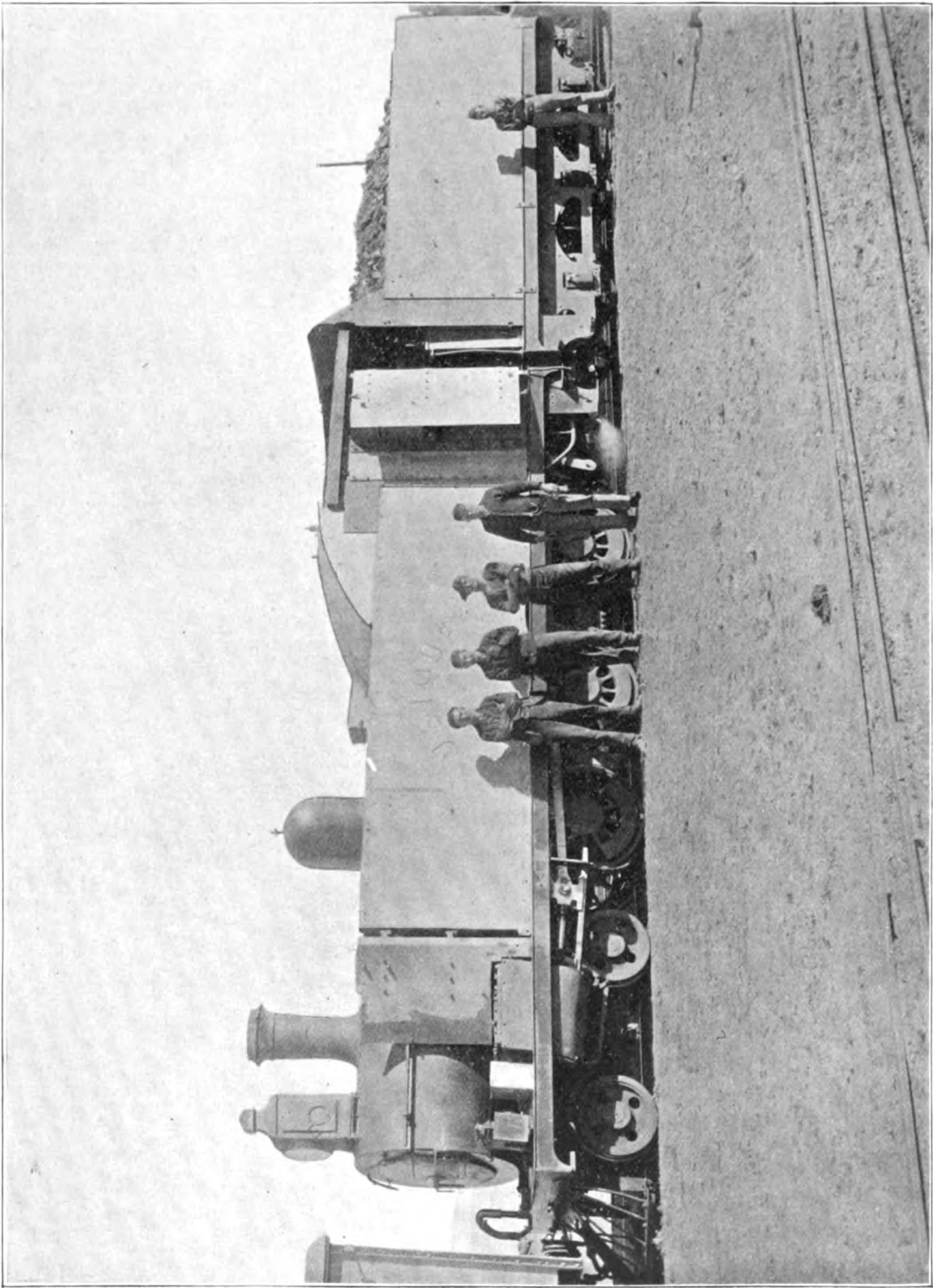
**Zand R., Bloemfontein—Pretoria line.  
Boiler of pumping engine, blown up by enemy.**



First pattern Gun Truck, No. 1 Armoured Train

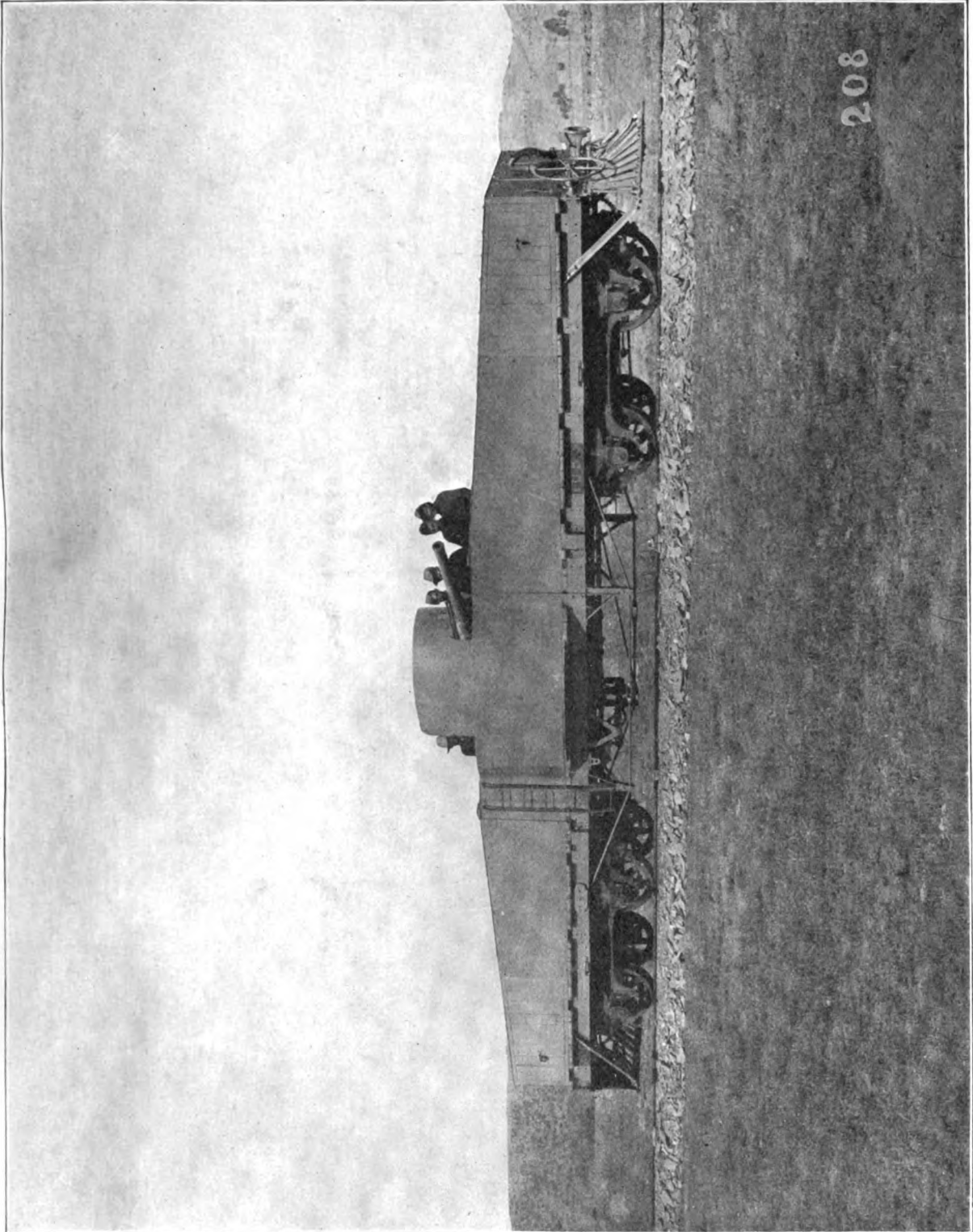


PHOTO 48.

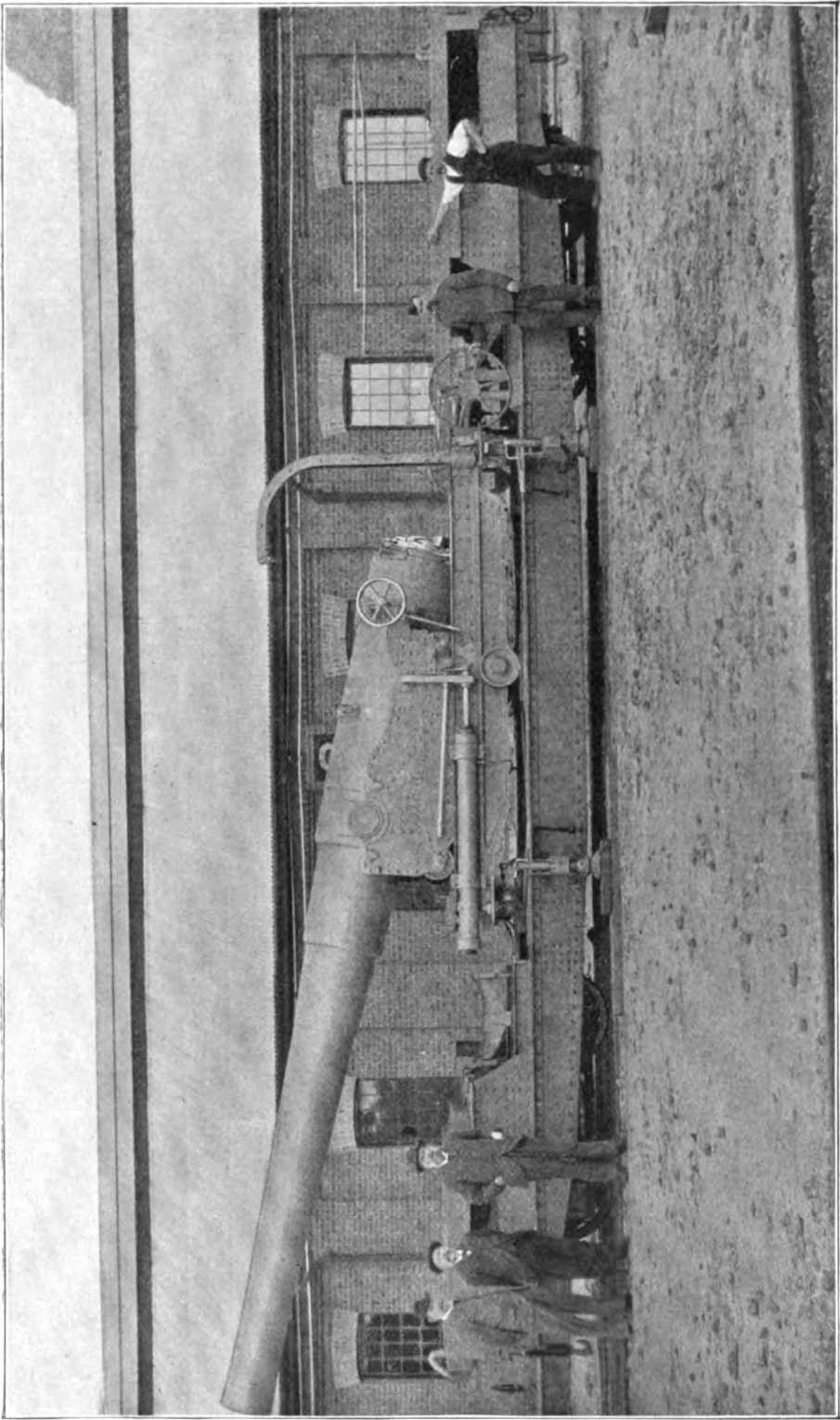


First pattern of Armoured Engine.

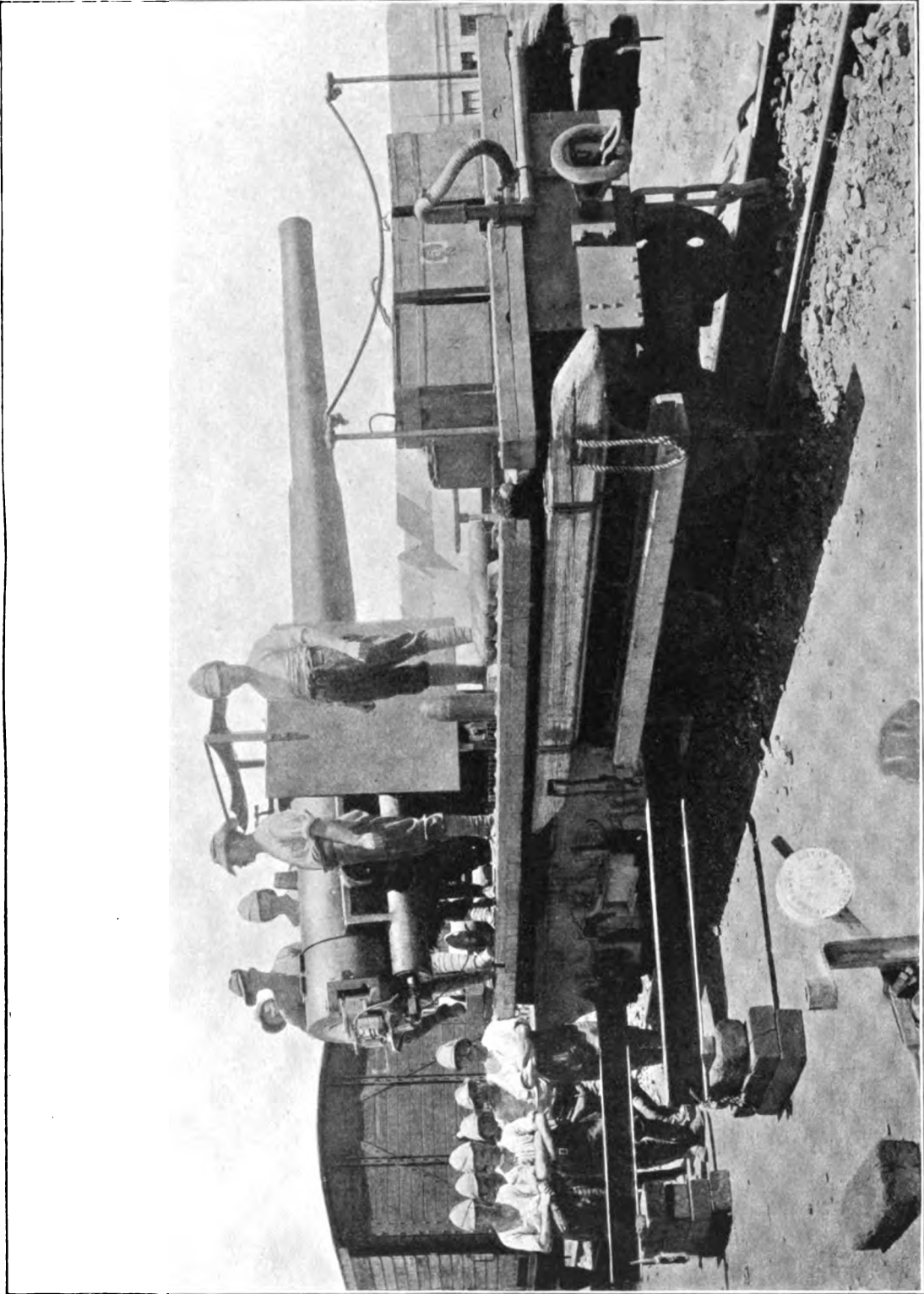




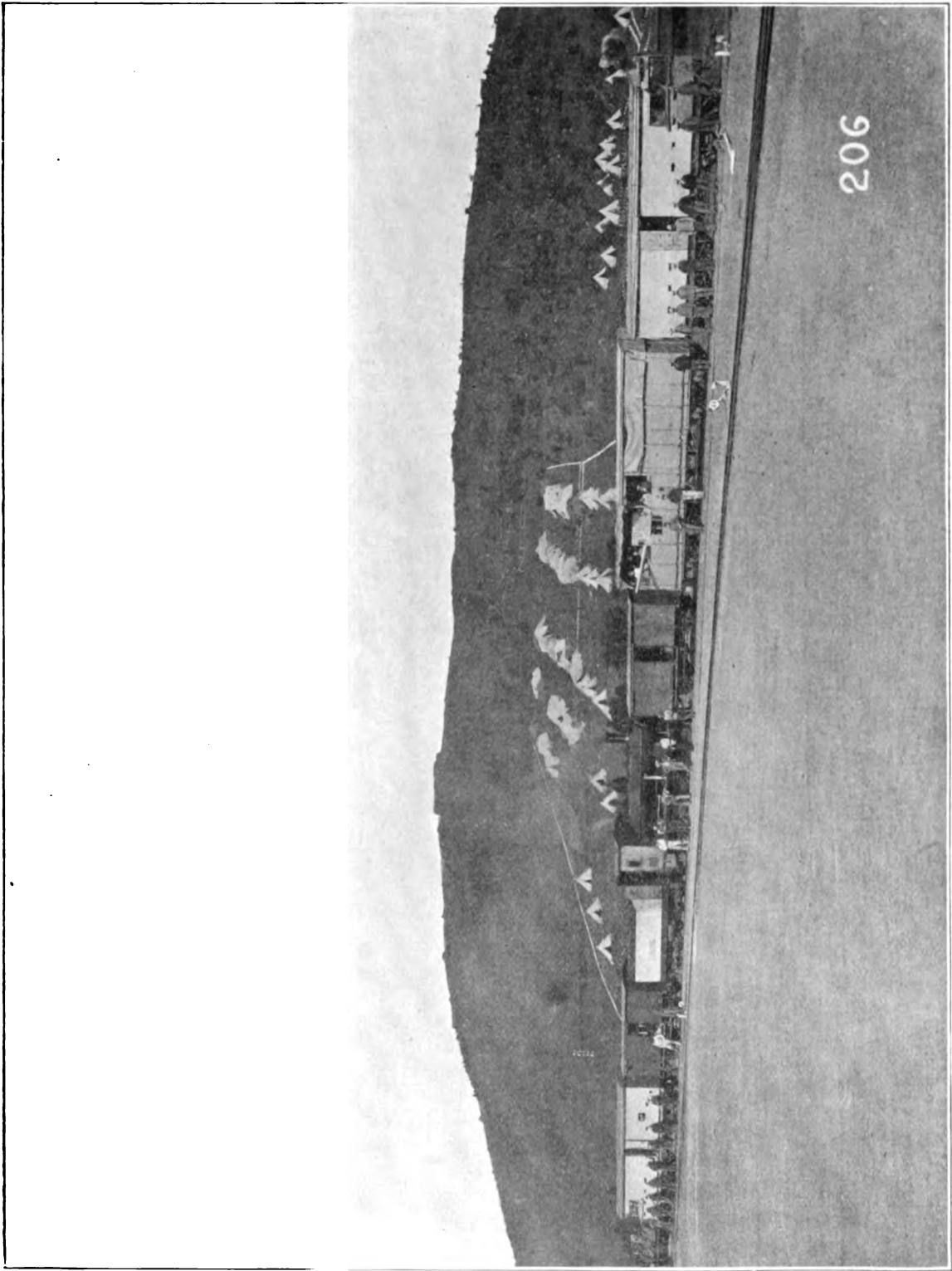
New pattern Gun Truck for 12-pounder Q.F. Gun.



9.2-inch Gun mounted on engine frame.



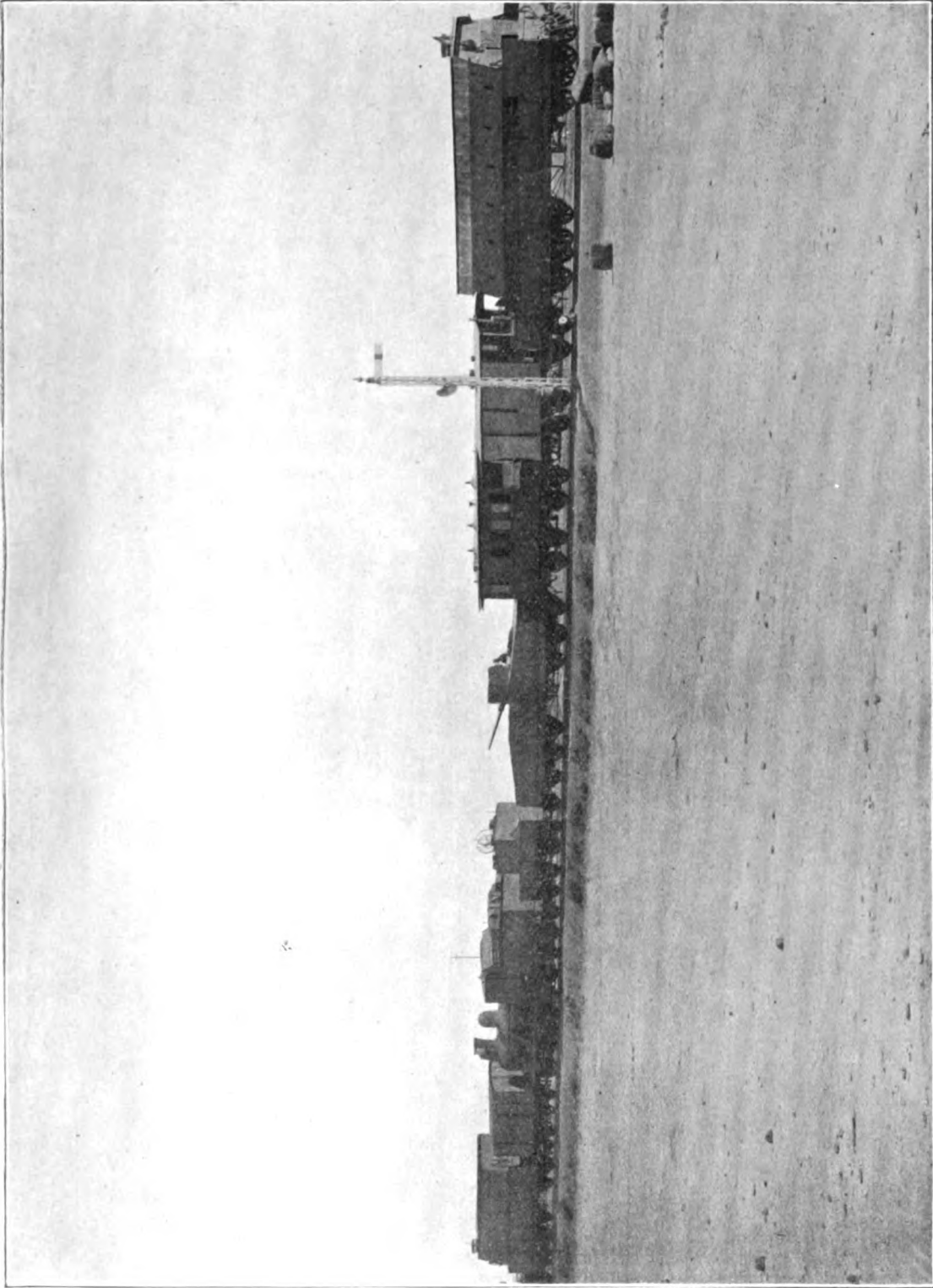
6-inch Gun Truck, frequently attached to Armoured Trains.



No. 1 Armoured Train.

Armament—2 12-pounder Q.F.  
3 303 Maxims.

C.O. . . . . . Lieut. A. G. T. Cousins, R.E.  
2nd Officer . . . . . Lieut. Beynon, C.G.A.

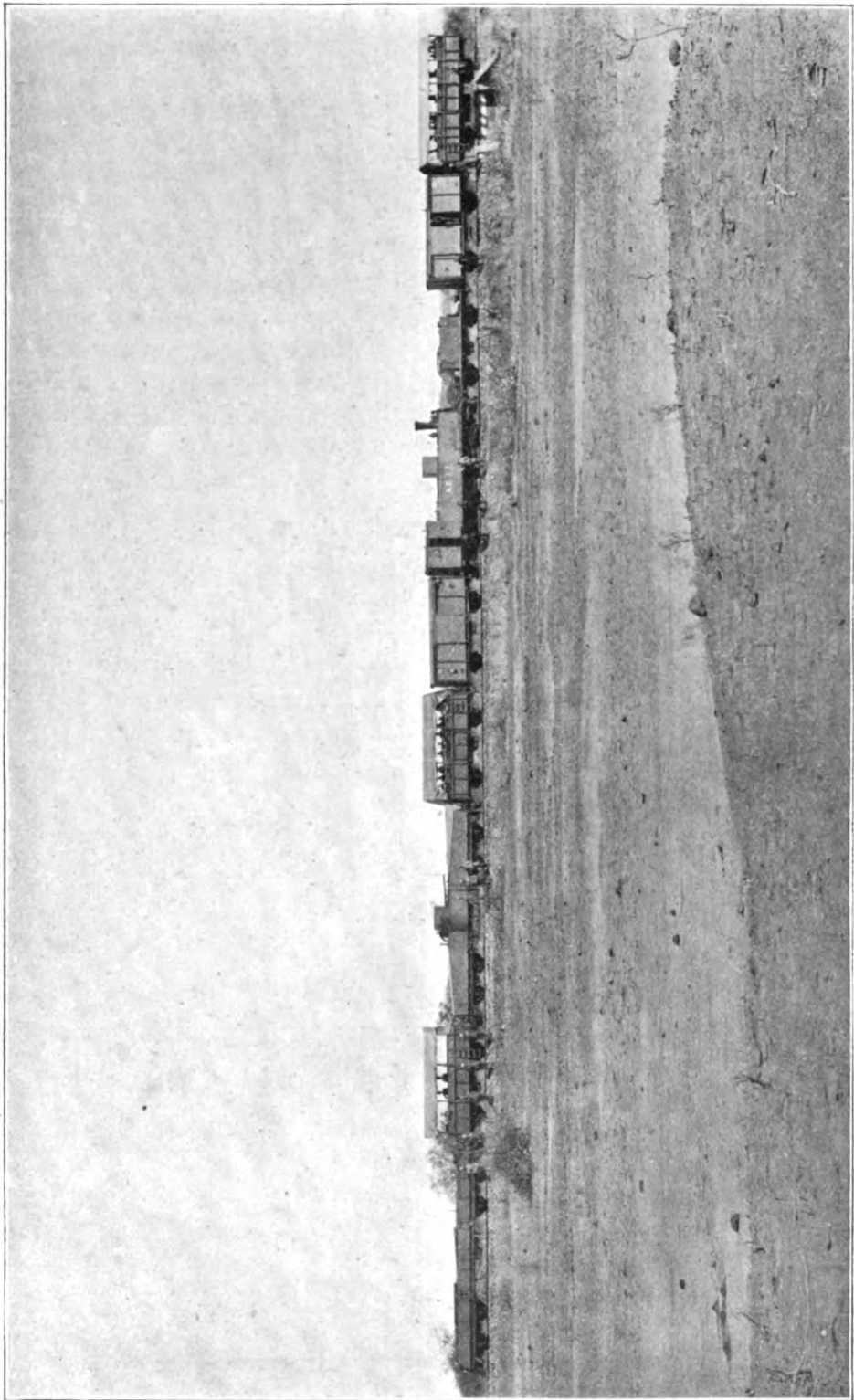


**No. 2 Armoured Train.**

C.O. .... Capt. A. M. Henniker, R.E.  
2nd Officer... 2nd Lieut. Jickell, R.G.A.

Armament—1 12-pounder Q.F.  
2 303 Maxims.

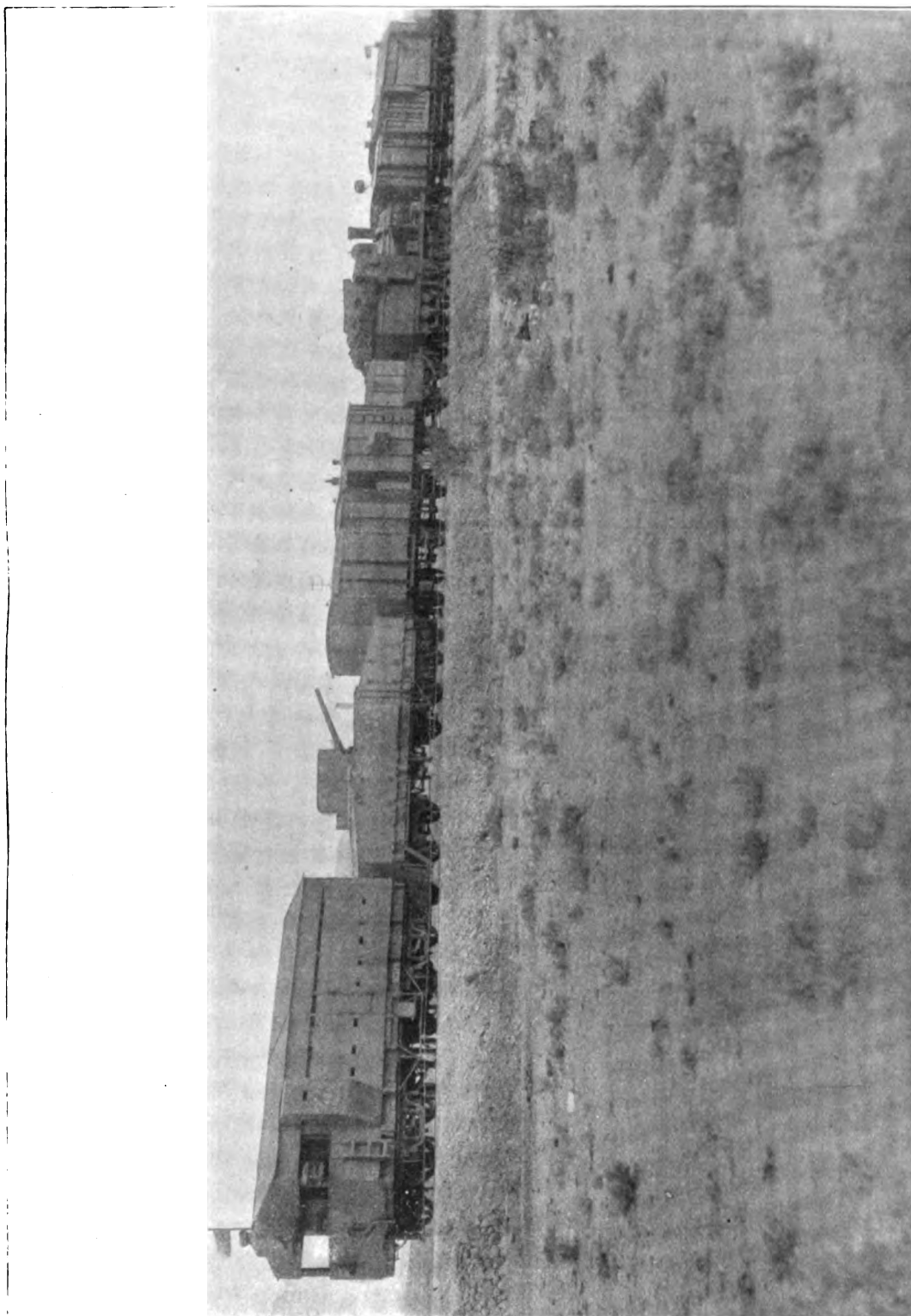




No. 17 Armoured Train.

Armament—1 12-pounder Q.F.  
2 303 Maxims.

C.O. .... Major C. S. Prichard, Northampton Regt.  
2nd Officer.. Capt. Bedford, R.G.A.

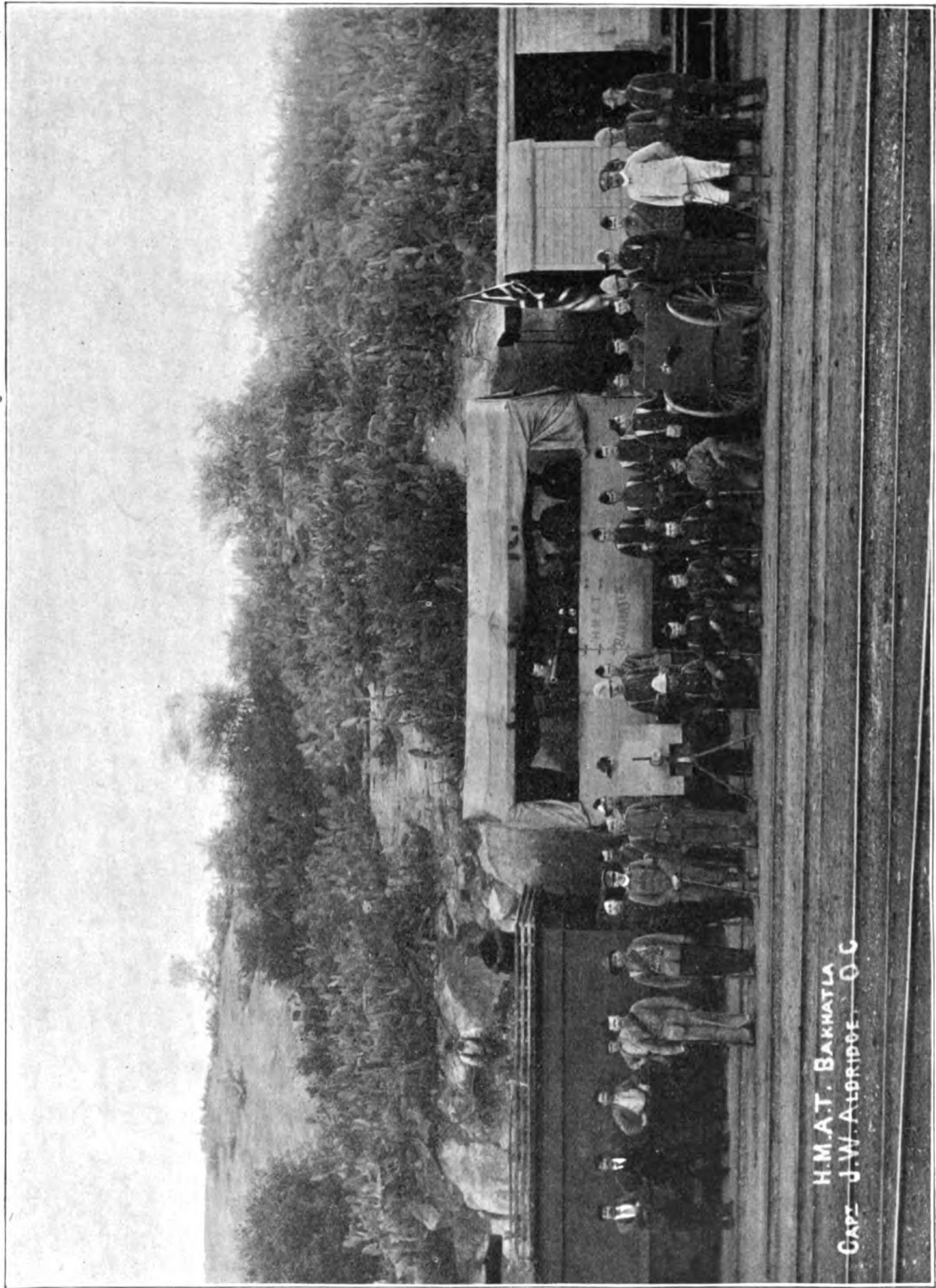


**No. 18 Armoured Train.**

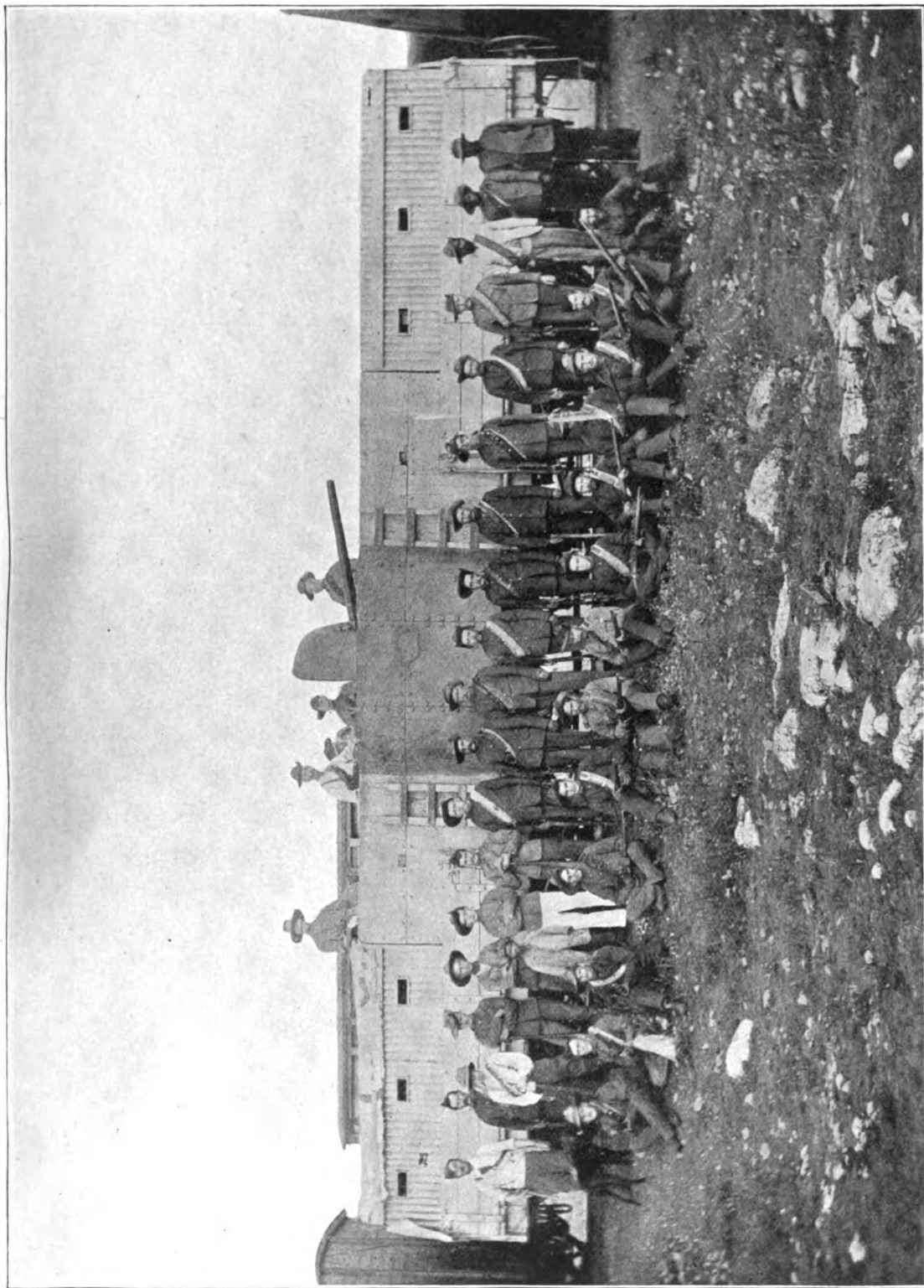
**Armament—1 12-pounder Q.F.  
2 450 Maxims.**

**C.O. .... Lieut. Baring, Coldstream Guards.  
2nd Officer... Lieut. Murray, R.G.A.**

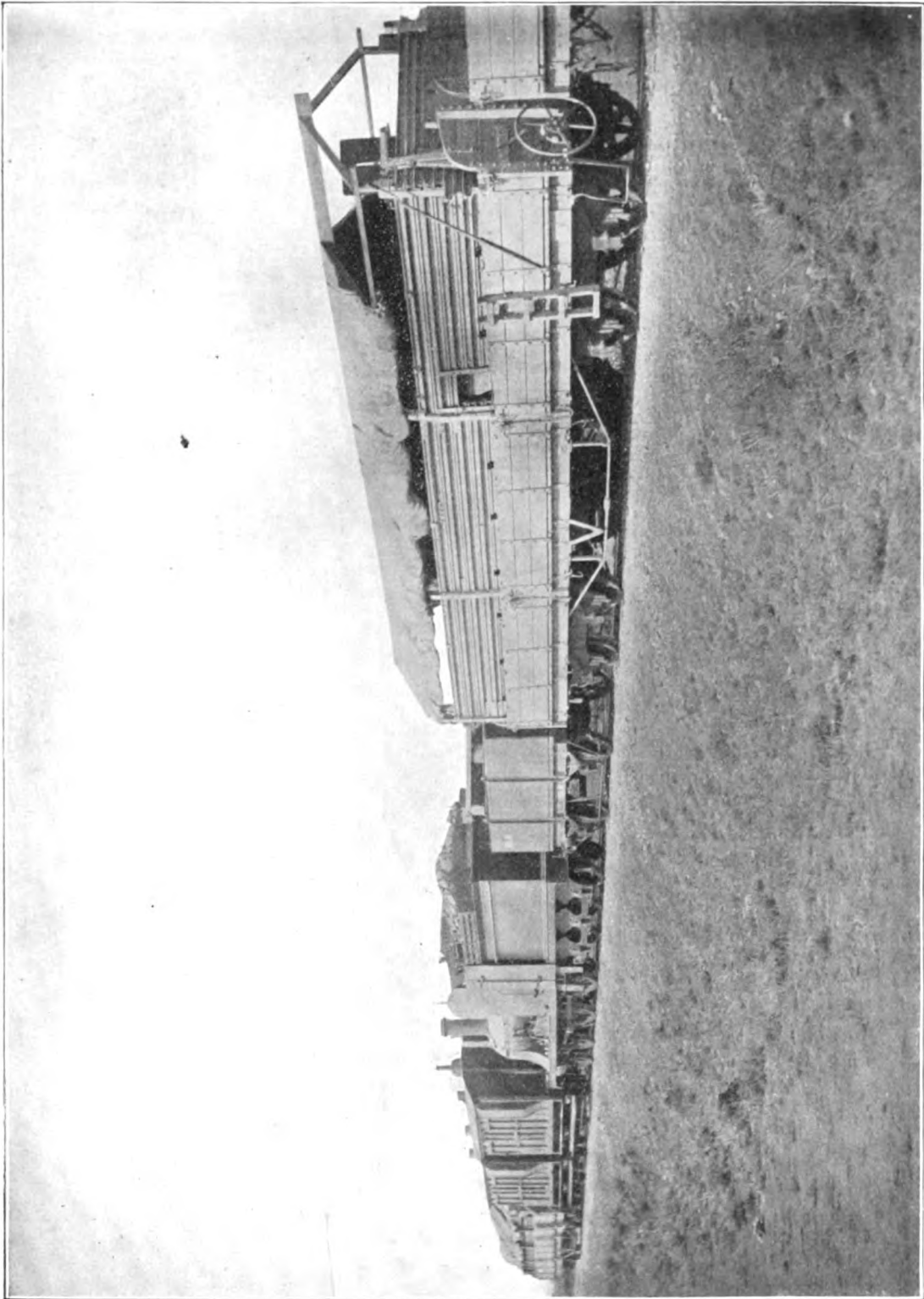
PHOTO 56.



6-pounder Gun Truck on No. 11 Armoured Train.



New pattern bogie on No. 12 Armoured Train  
With 6-pounder gun and Infantry.



No. 20 Armoured Train.

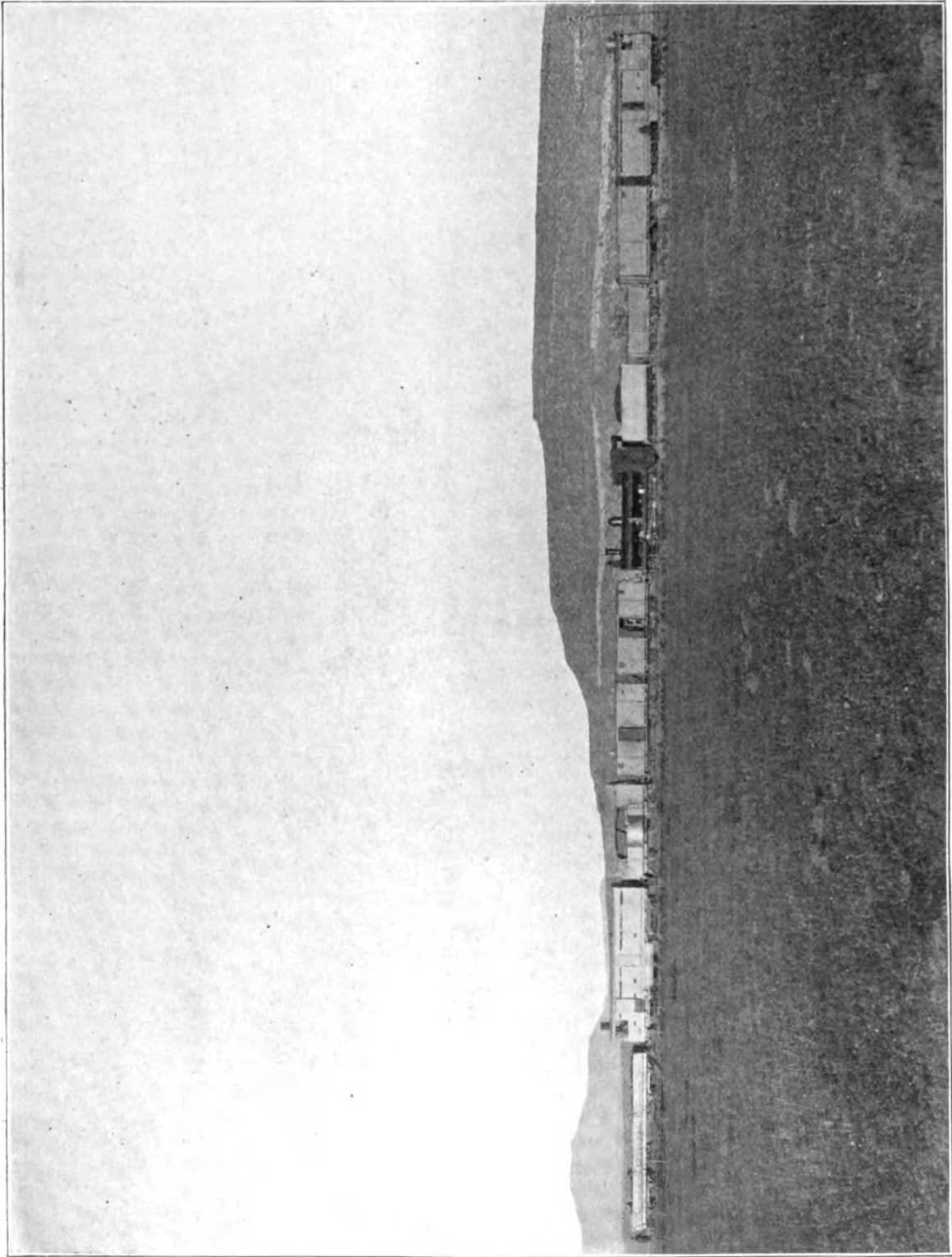
Armament—1 double-barrel 1" Nordenfolt.  
1 303 Maxim.  
1 3-pounder Q.F.

C.O. .... : Lieut. Russell, 4th Scottish Rifles.  
2nd Officer. : Lieut. Brunton, K.O. Scottish Borderers.





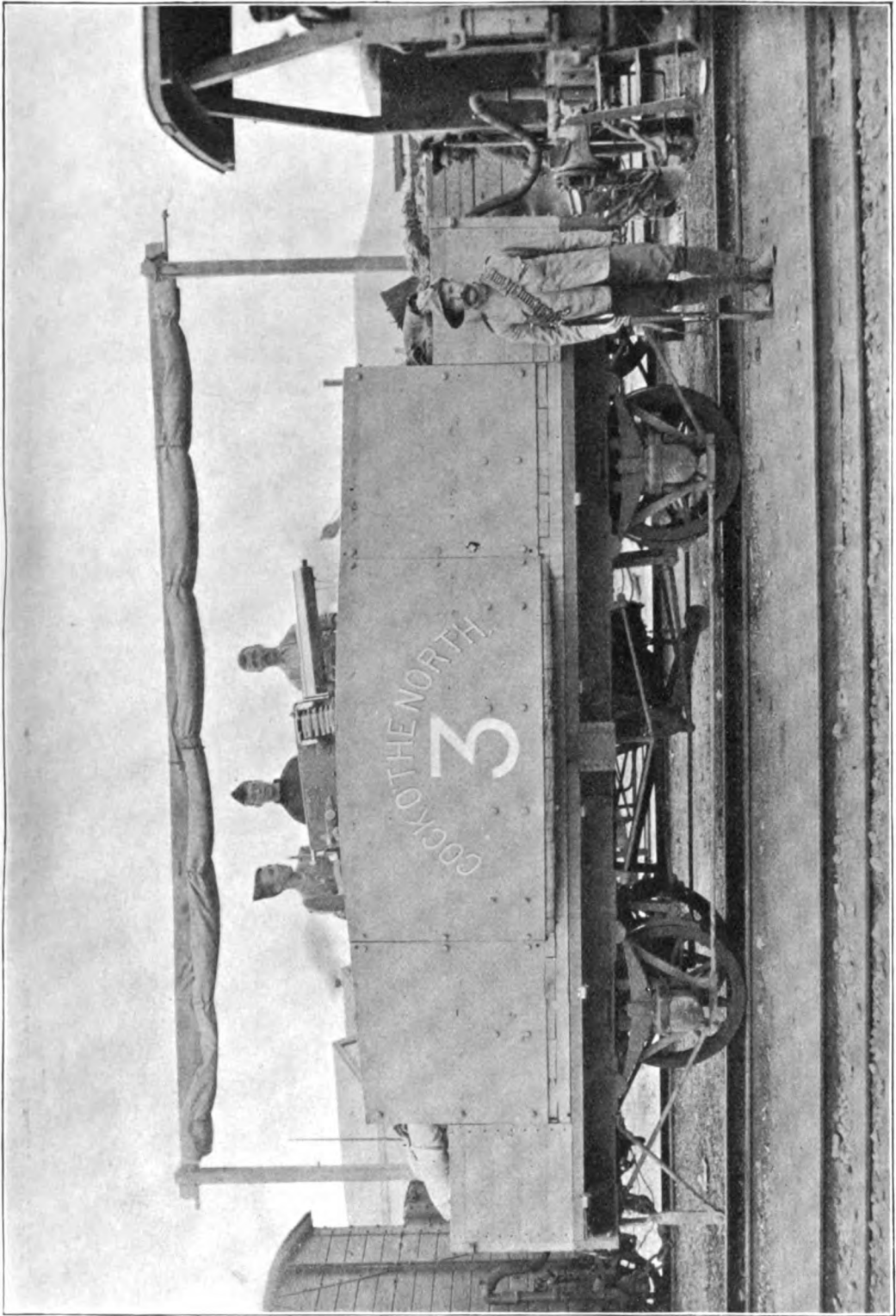
No. 16 Armoured Train, before alteration.  
With 3-pounder gun in turret.



No. 16 Armoured Train, after alteration.

Armament—1 3-pounder Q.F.  
2 303 Maxims.

C.O. .... Lieut. Grant, Coldstream Guards.  
2nd Officer... 2nd Lieut. H. P. T. Lefroy, R.E.



Pom-pom Truck on No. 3 Armoured Train.

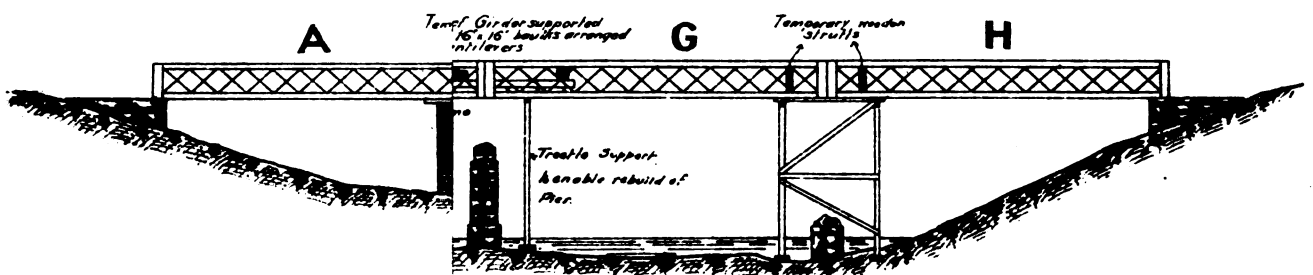
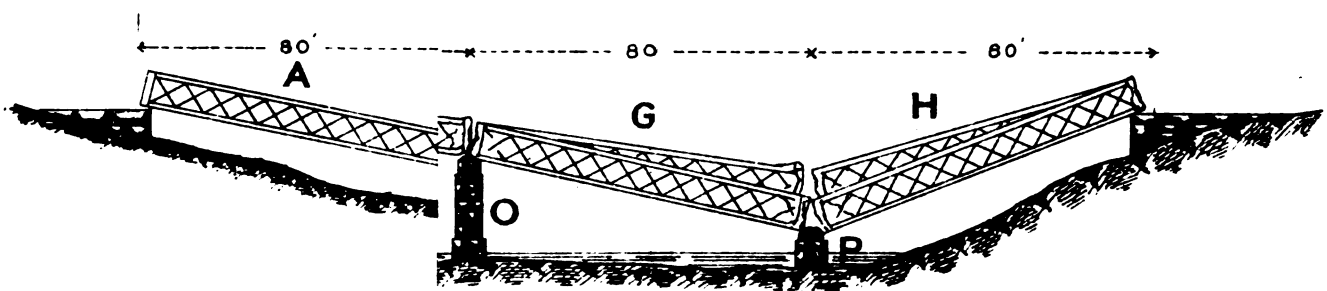






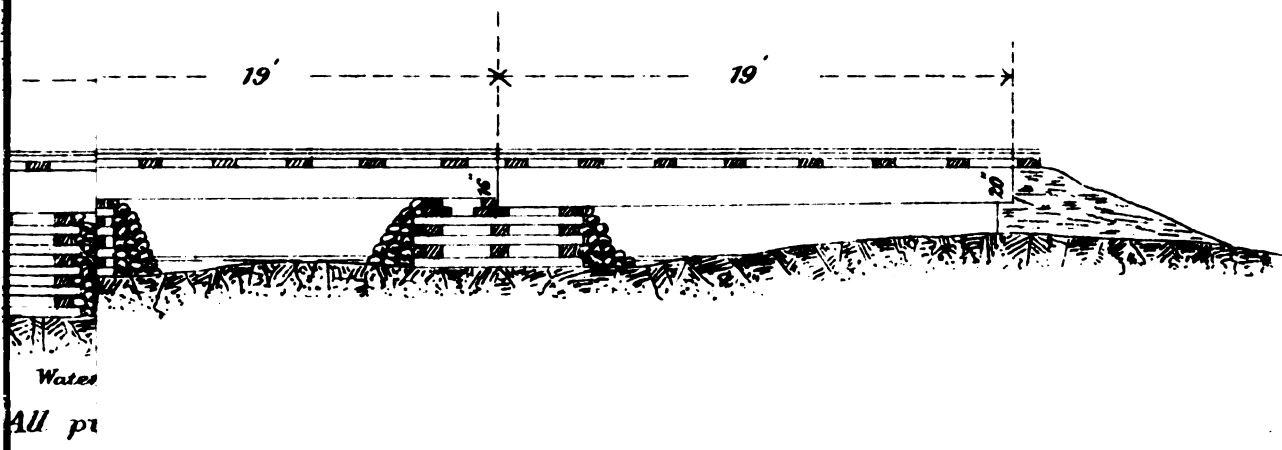


Officer in Charge : Capt. W. D. 1  
 Working Party : 8th (Railway)  
 31st (Fortress)  
 Time taken : 110 days (del.  
 girder pie.





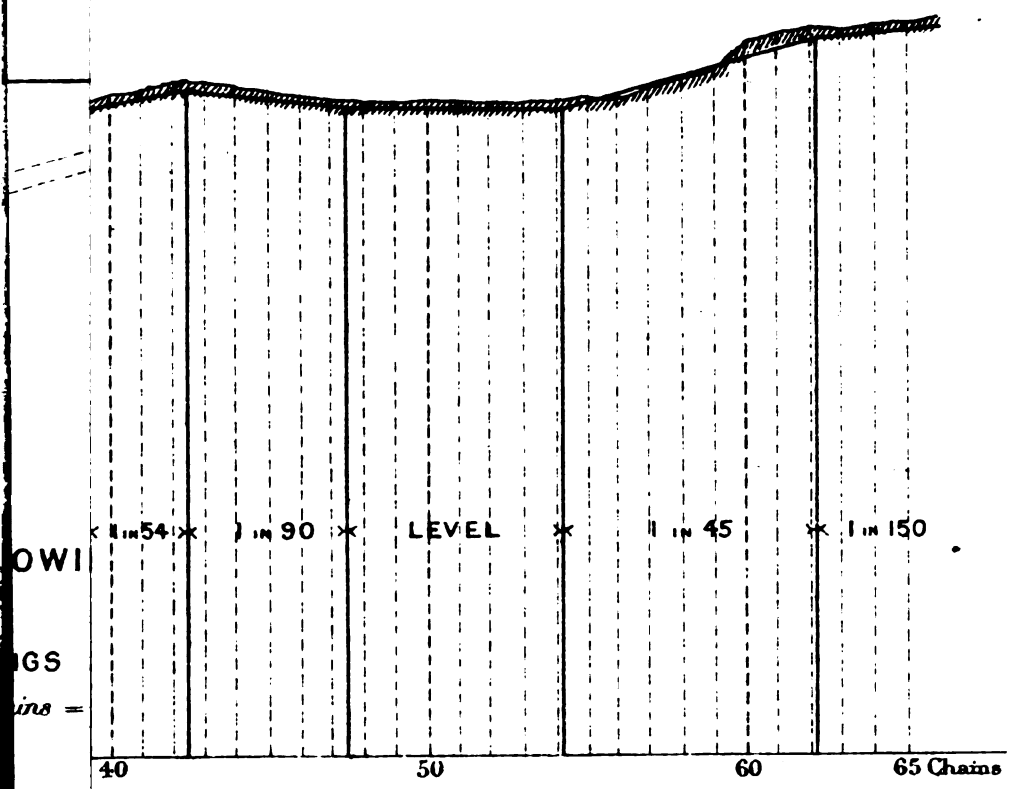
M  
OR



ION

DEVIATION.

h.



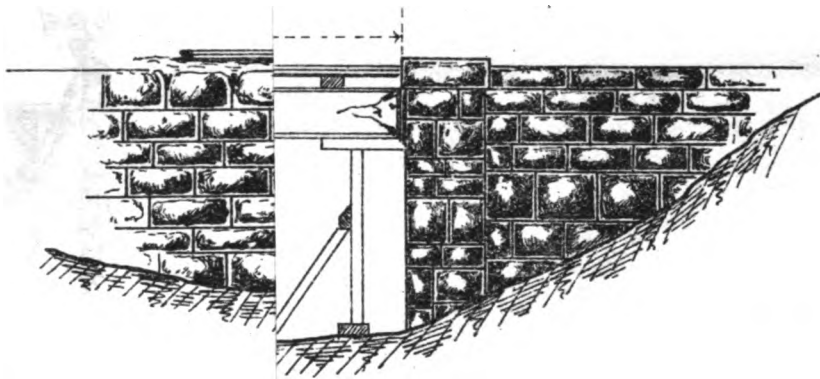
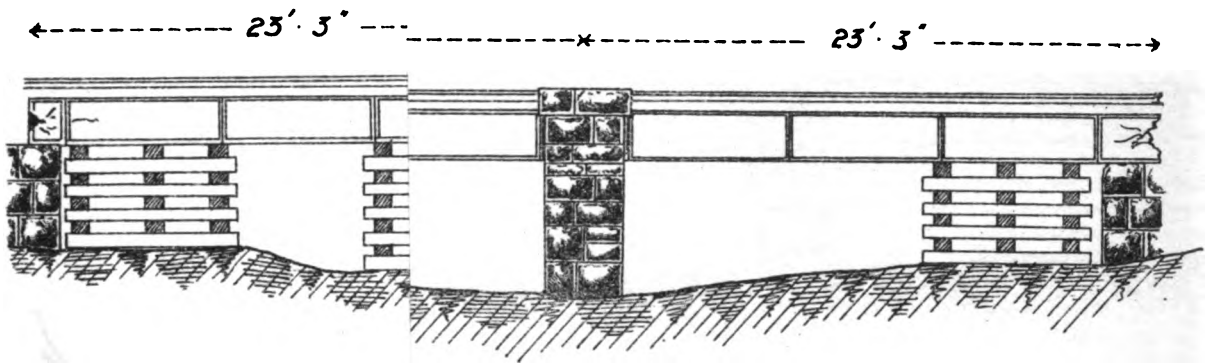
OWI

GS

ins =







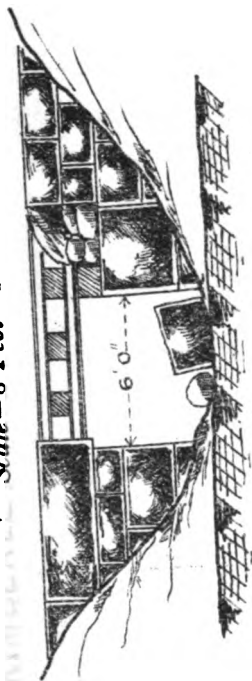
*Officer in Charge:* Capt. F. C.  
*Working Party:* Part of W  
*Time taken:* 32½ hours.



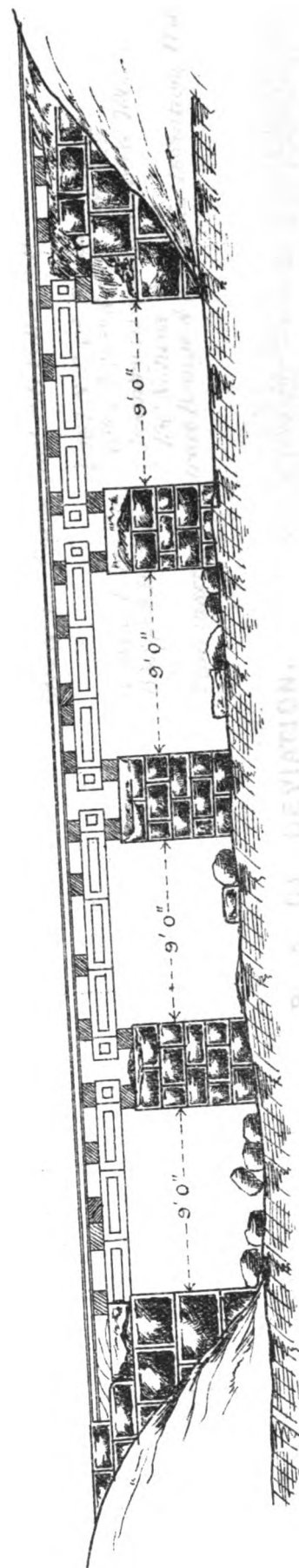
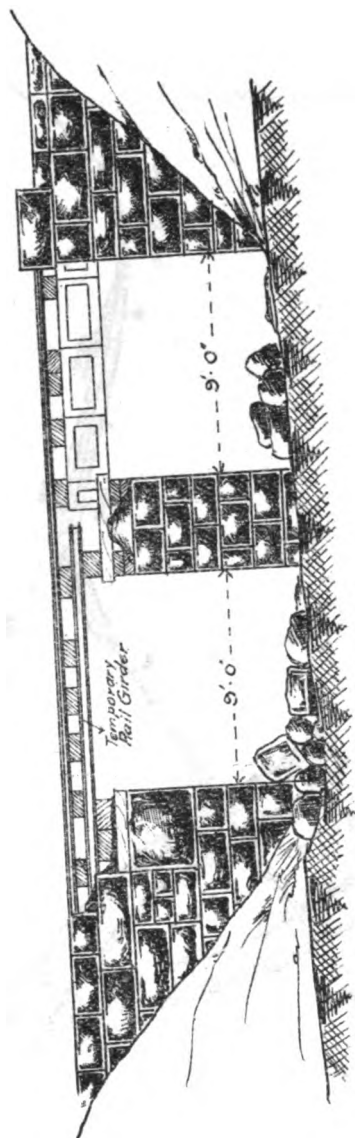
# TYPES OF REPAIRS TO CULVERTS.

## KIMBERLEY—MAFEKING LINE.

Scale—8 Feet=1 Inch.



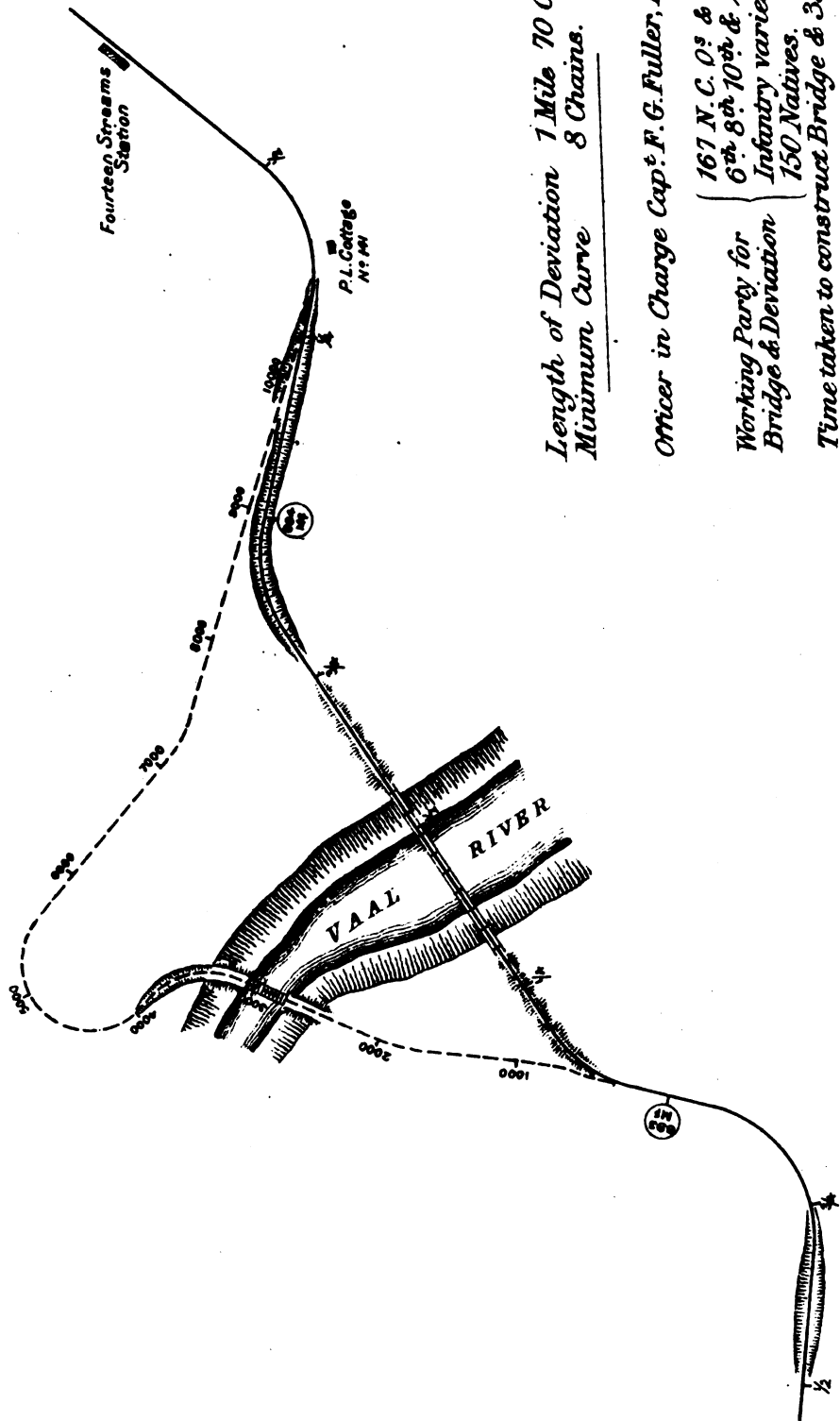
Officer in Charge : Capt. F. G. Fuller, R.E.  
 Working Party : Part of Western Field Railway Section.  
 Time taken : 33½ hours, including one other culvert and one set of points and crossings.





# VAAL R. BRIDGE, FOURTEEN STREAMS.

KIMBERLEY-MAFEKING LINE.



*Length of Deviation 1 Mile 70 Chains.  
Minimum Curve 8 Chains.*

*Officer in Charge Capt. F. G. Fuller, R.E.*

*Working Party for Bridge & Deviation*  
*167 N.C.O.s & Men from 6th, 8th, 10th & 20th Coy's R.E.*  
*Infantry varied from 150 to 700.*  
*150 Natives.*  
*Time taken to construct Bridge & 3300 yds. Deviation, 11 days.*

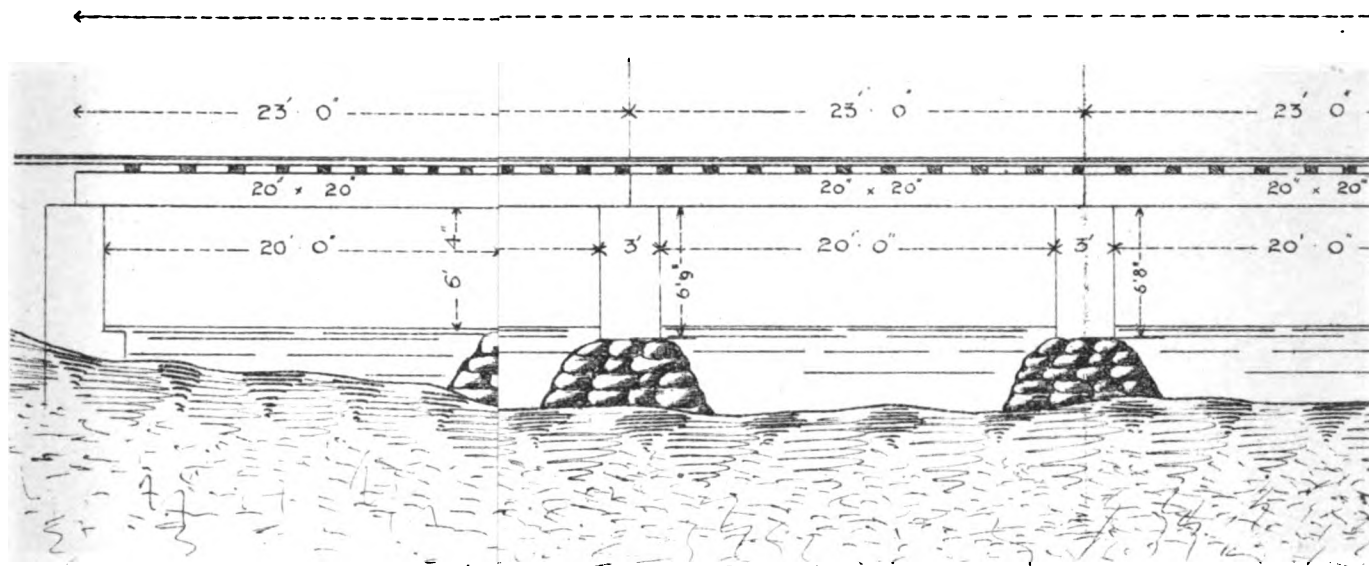
PLAN OF DEVIATION.

Scale 20 Chains = 1 Inch.



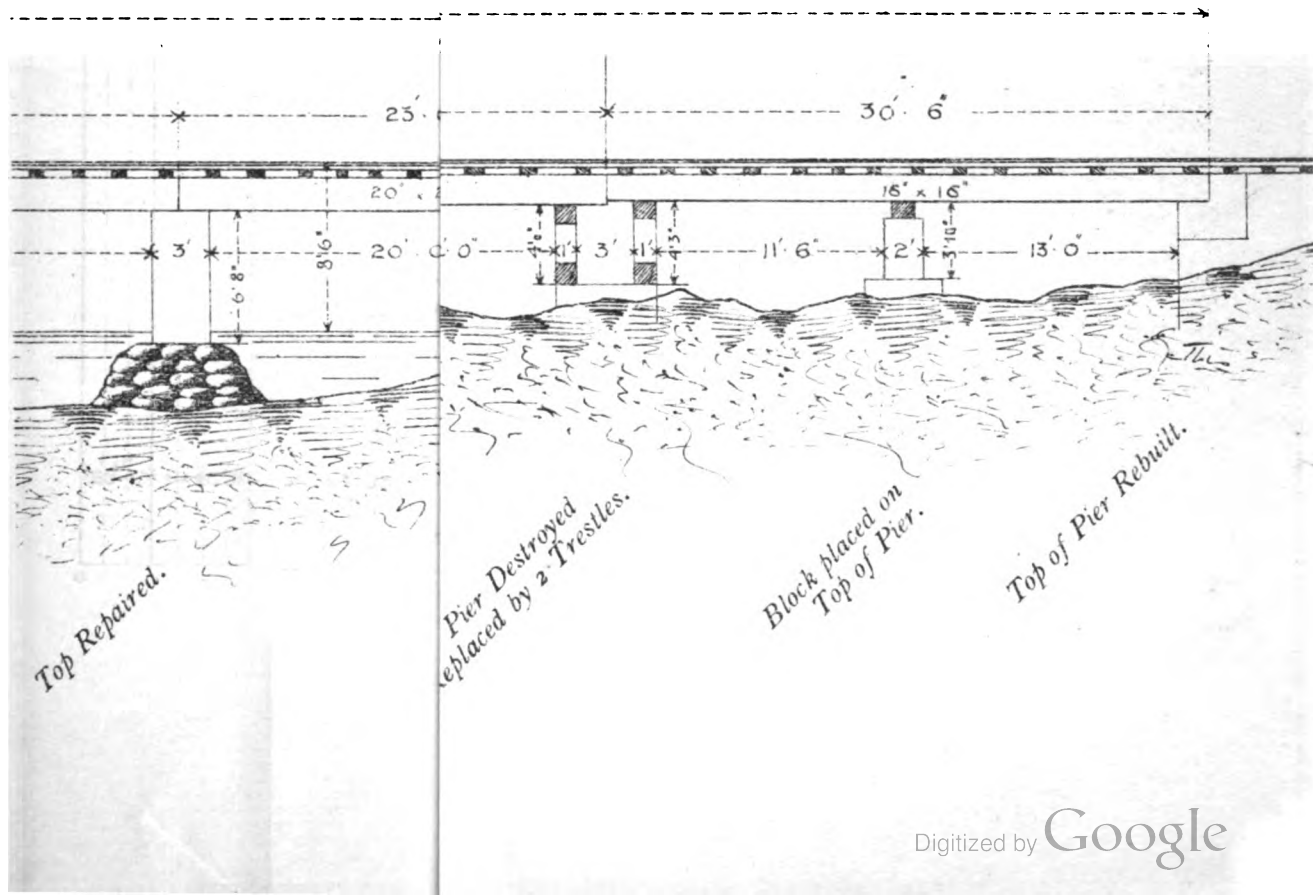


Officer in Charge :      Capt. F. C.  
 Working Party for Bridge      8th (Rail  
 and Deviation      ...      31st (For  
    1,200 Inf  
    300 Nativ  
 Time taken :              11 days, f  
    Deviat



Top of Pier Repair  
 Repaired.  
 otings Re-Made.

Top Repaired.



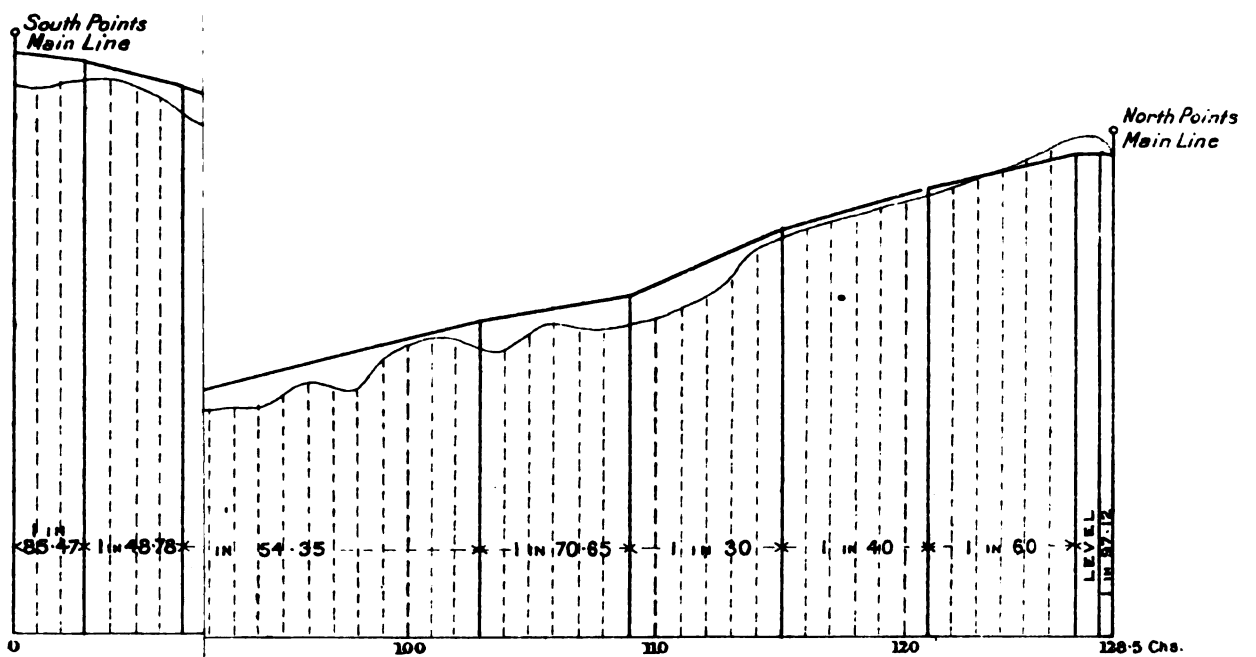
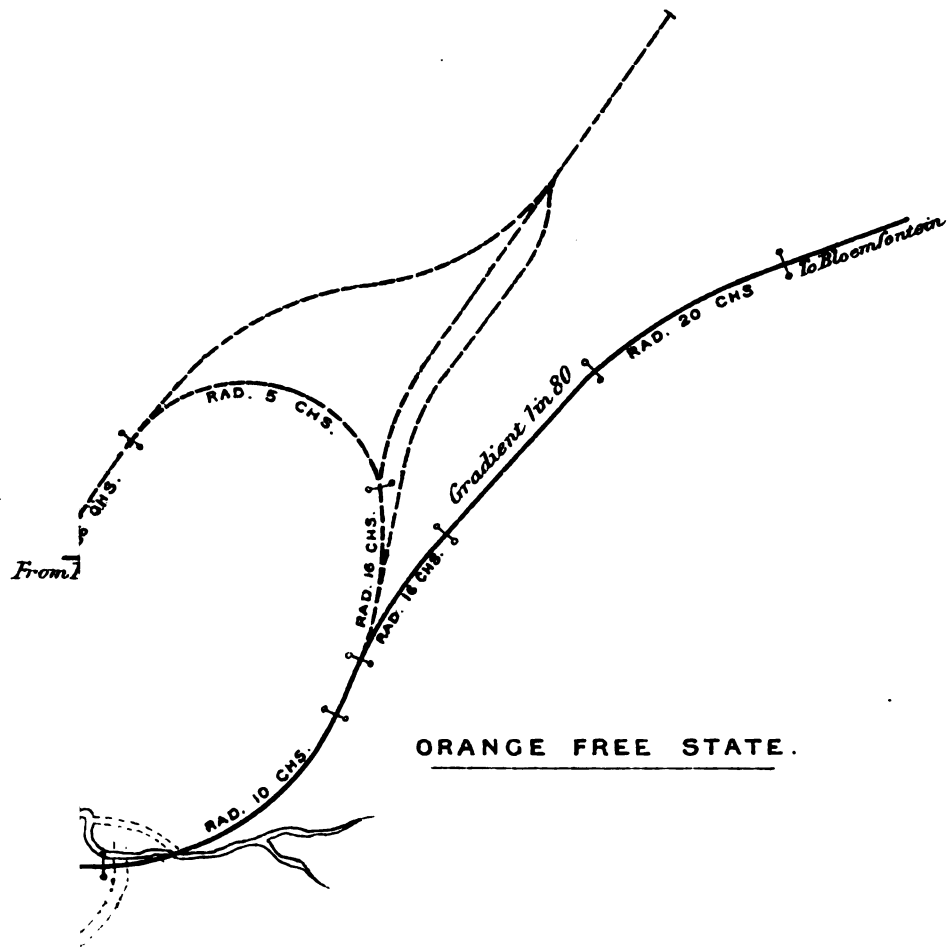
Top Repaired.

Pier Destroyed  
 eplaced by 2 Trestles.

Block placed on  
 Top of Pier.

Top of Pier Rebuilt.



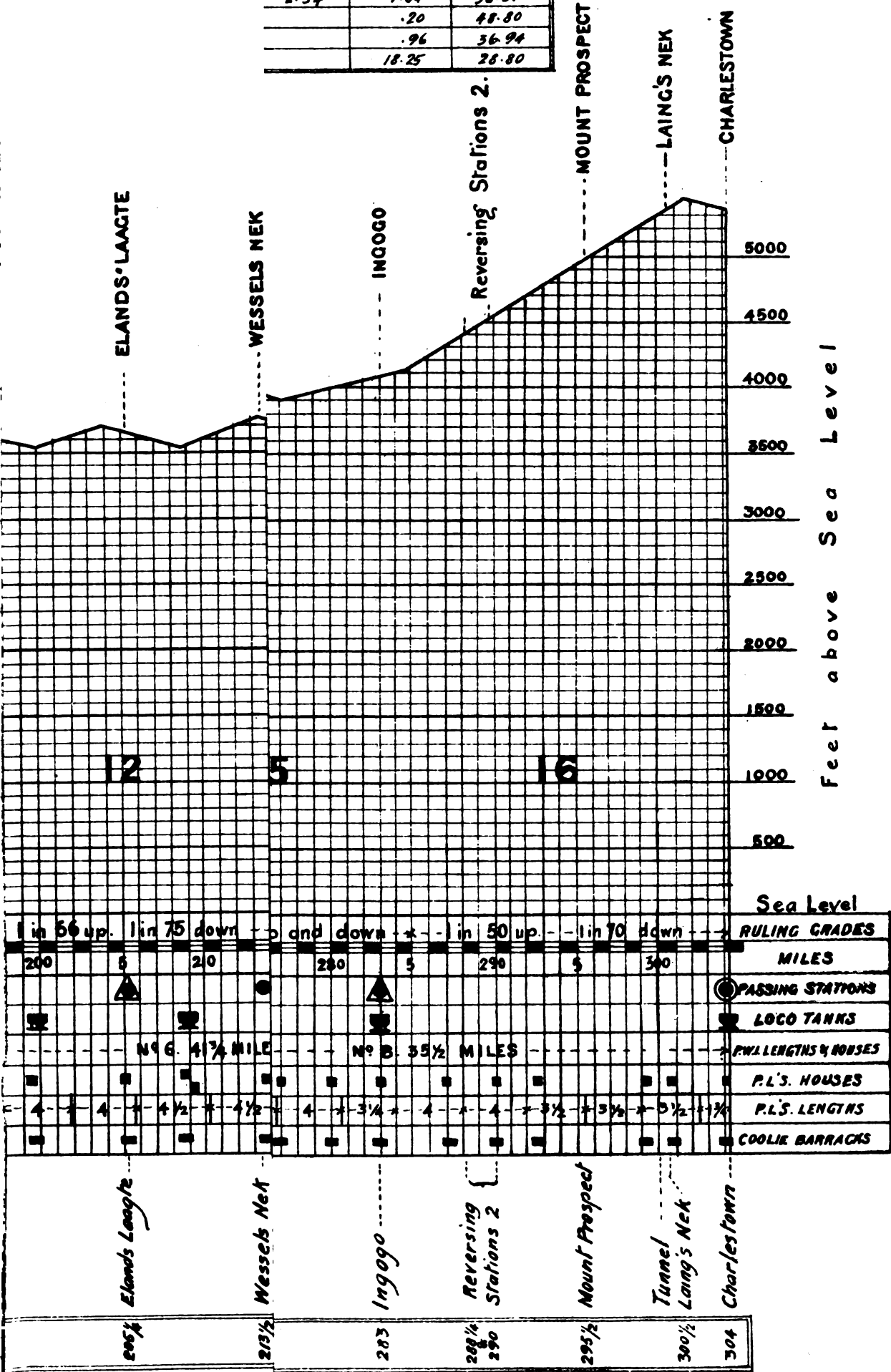






FILE \_\_\_\_\_  
OF STRAIGHTS & CURVES \_\_\_\_\_  
TO CHARLESTOWN \_\_\_\_\_

100 Curves	300 to 450 Curves	Over 450 Curves
0	.49	35.78
2.54	1.84	56.01
	.20	48.80
	.96	36.94
	18.25	26.80



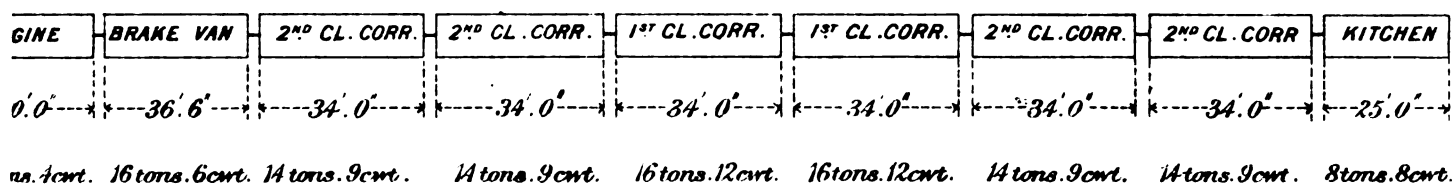






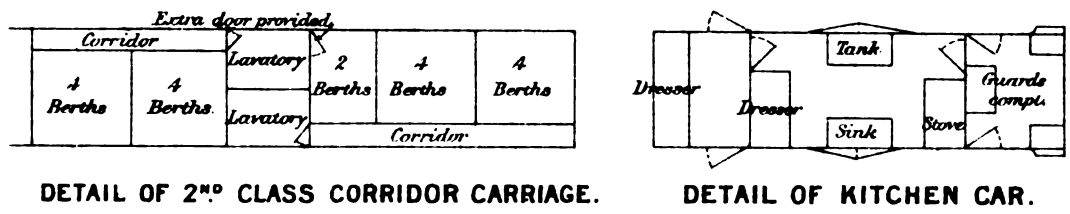
NATAL GOVERNMENT RAILWAY.

ARRANGEMENT OF COACHES IN HOSPITAL TRAIN.



Total weight approx + 162 tons  
Total length approx + 320 ft.  
Total N<sup>o</sup> of sick + 98 Lying-down Cases.

GENERAL ARRANGEMENT.

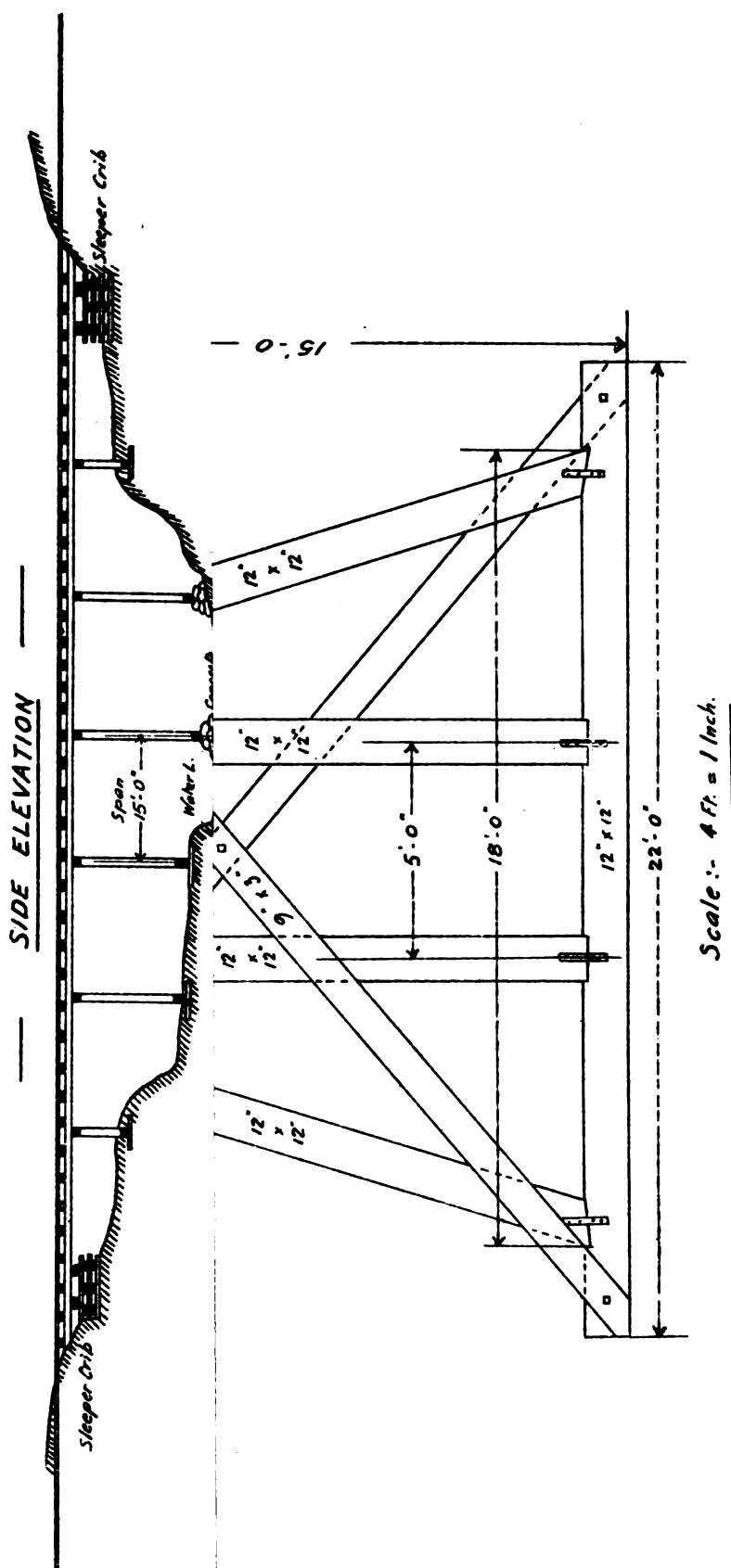






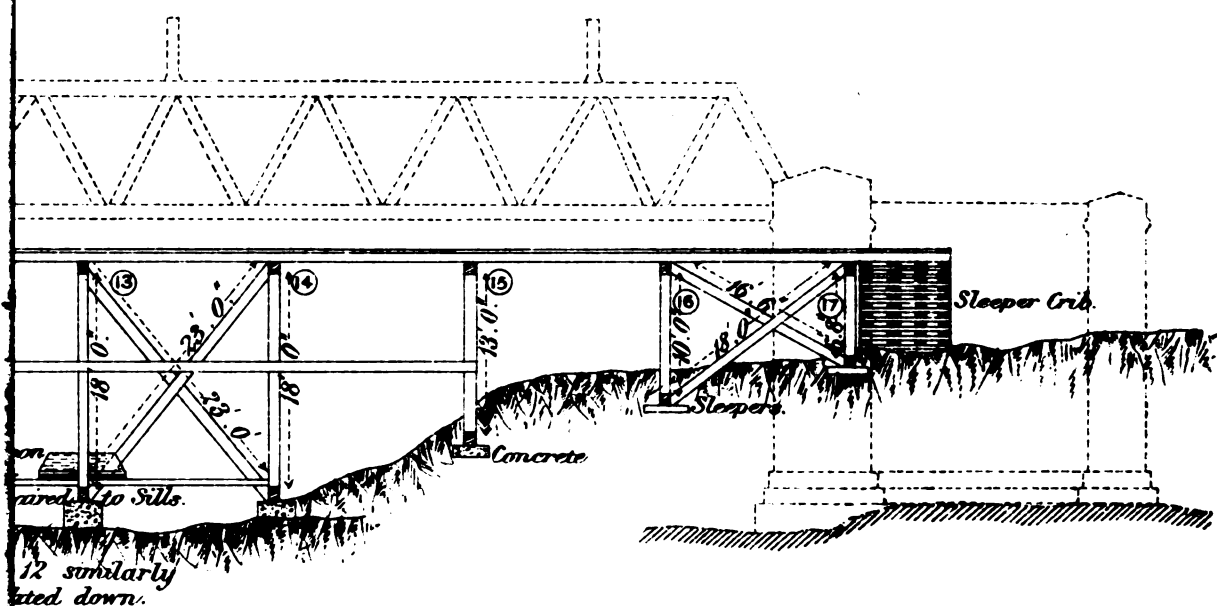
**NATAL GOVERNMENT RAILWAYS.**

TYPE OF TEMPORARY BRIDGE ERECTED BY N.G.R. RECONSTRUCTION DEPT.

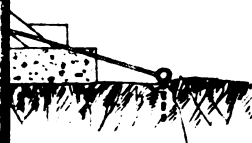




**ANTZ.**



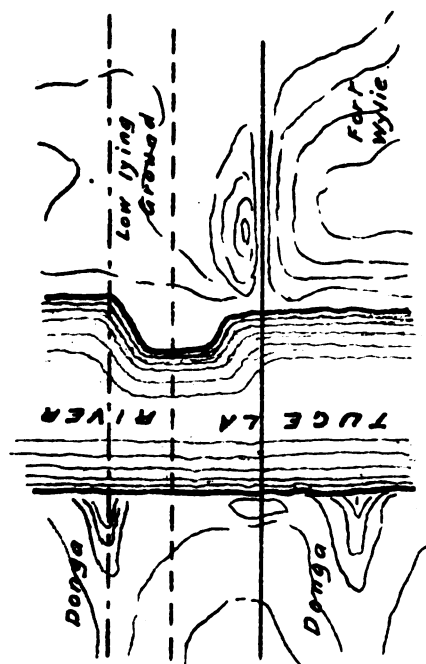
*NOTE+ Each of the trestles in the bed of the river was locked down at each end of the sill by wire rope to eyebolts sunk into the rock.*



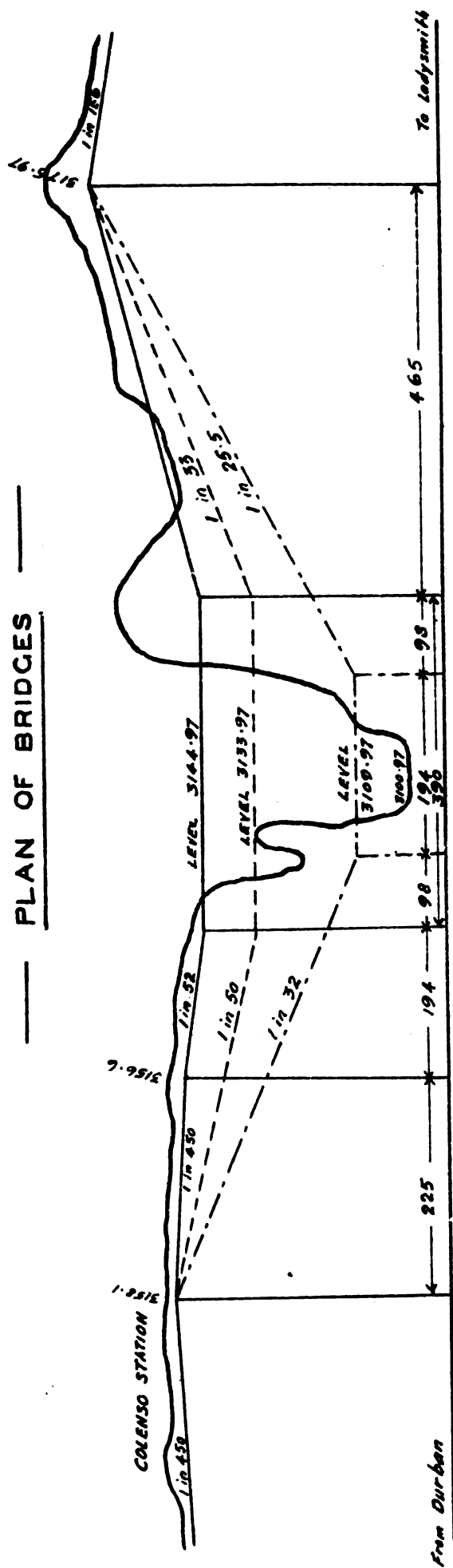


## NATAL LINE.

## PLAN AND SECTIONS OF DEVIATIONS.



# PLAN OF BRIDGES



# SECTION OF LINES ACROSS TUGELA

*taken from N. G. R. Official Sections  
Distances Approximate*

SECTION OF ORIGINAL LINE

APPROX SECTION OF DEVIATION & BRIDGE IN COURSE OF CONSTRUCTION

APPROX. SECTION OF DEVIATION WITH MAX. GRADE OF 1 IN 25

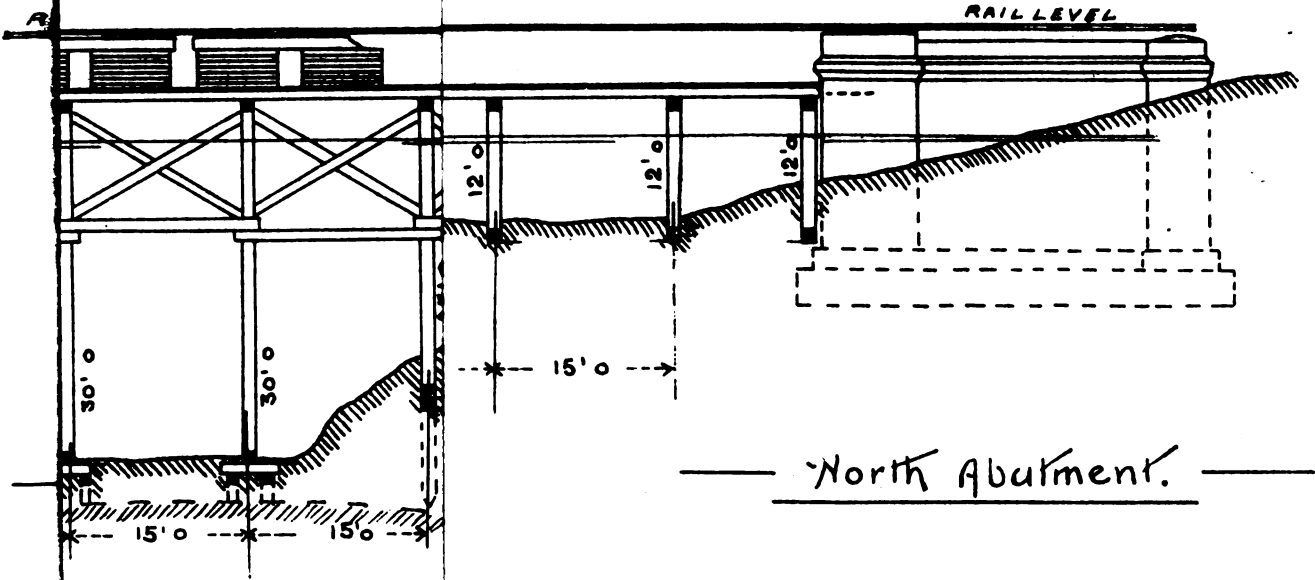




BRIDGE.

30-FOOT CLEAR SPANS.

h.



TRESTLE STAGIN

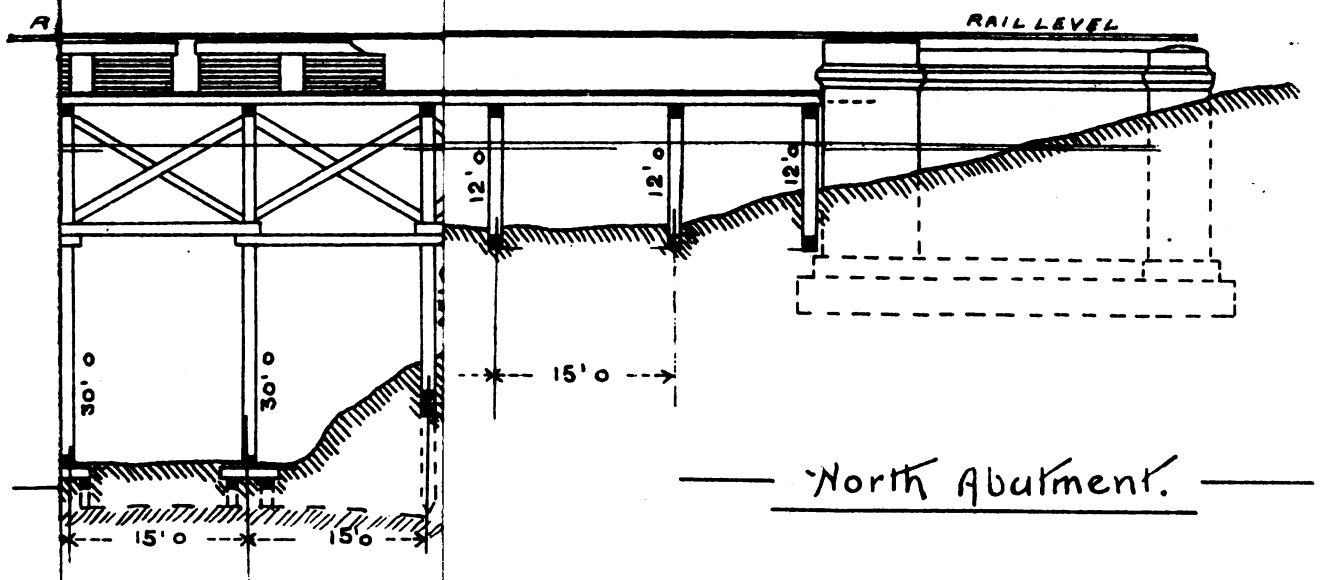
STREAM



BRIDGE.

30-FOOT CLEAR SPANS.

h.

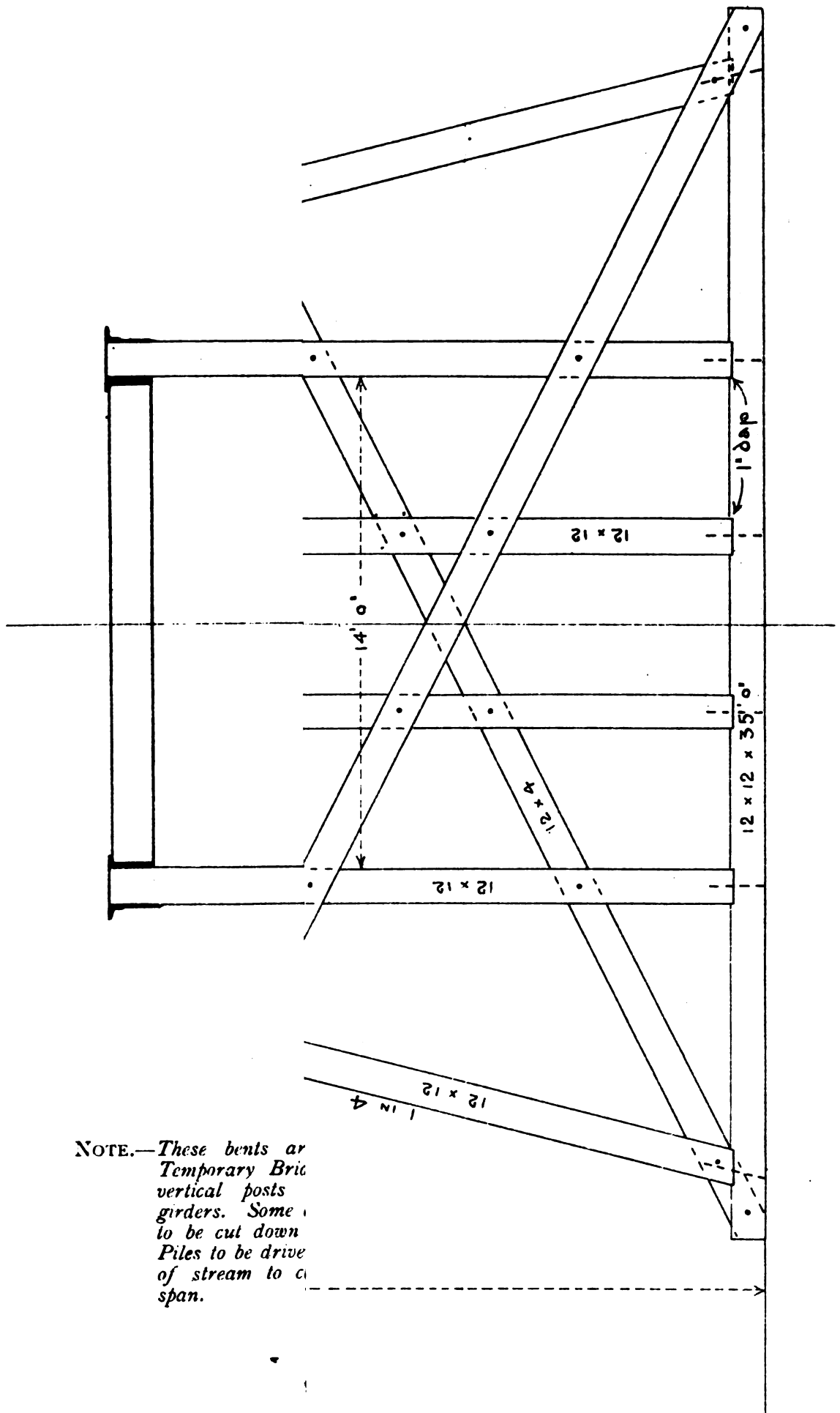


TRESTLE STAGION

STREAM

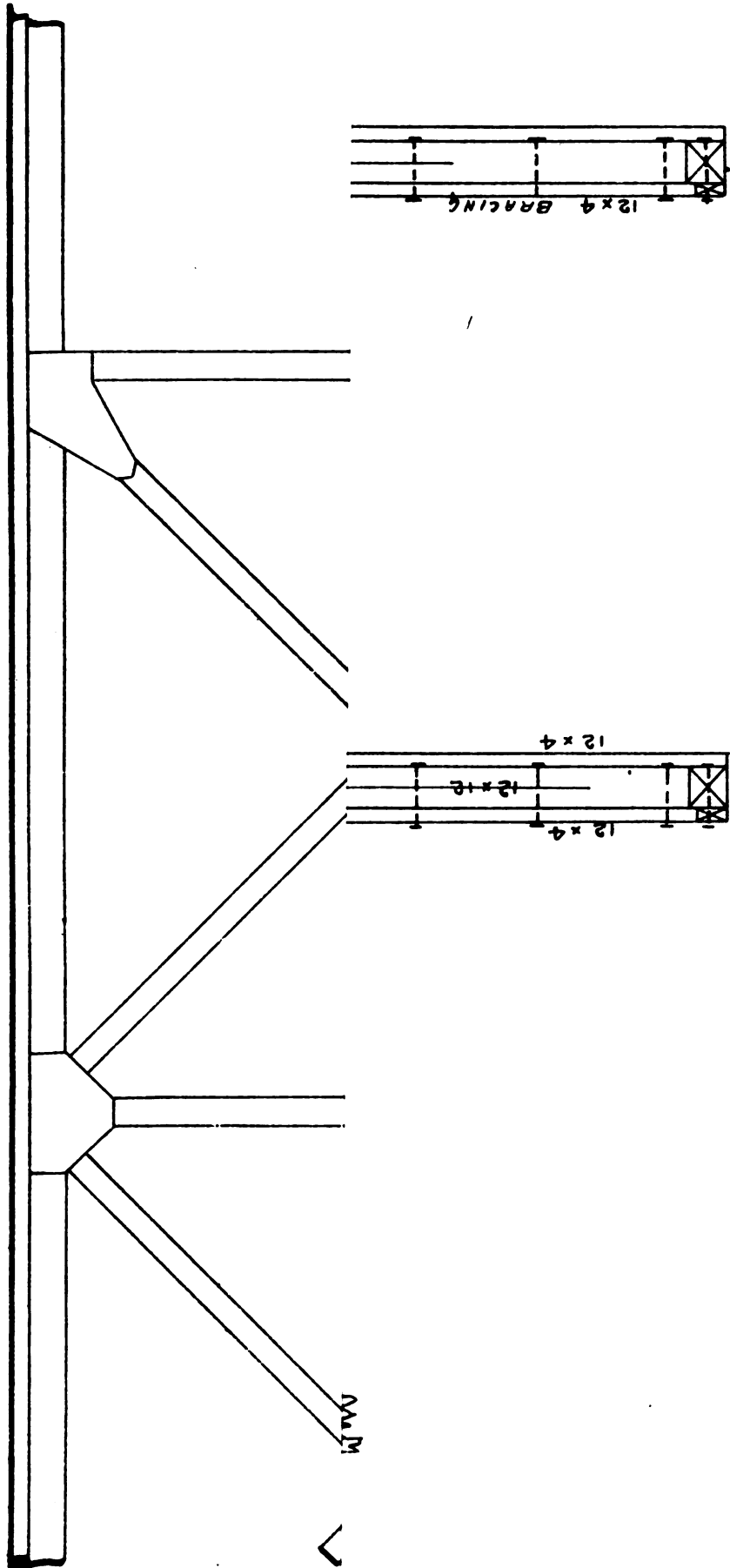
North Abutment.











# INGAGANE RIVER BRIDGE.

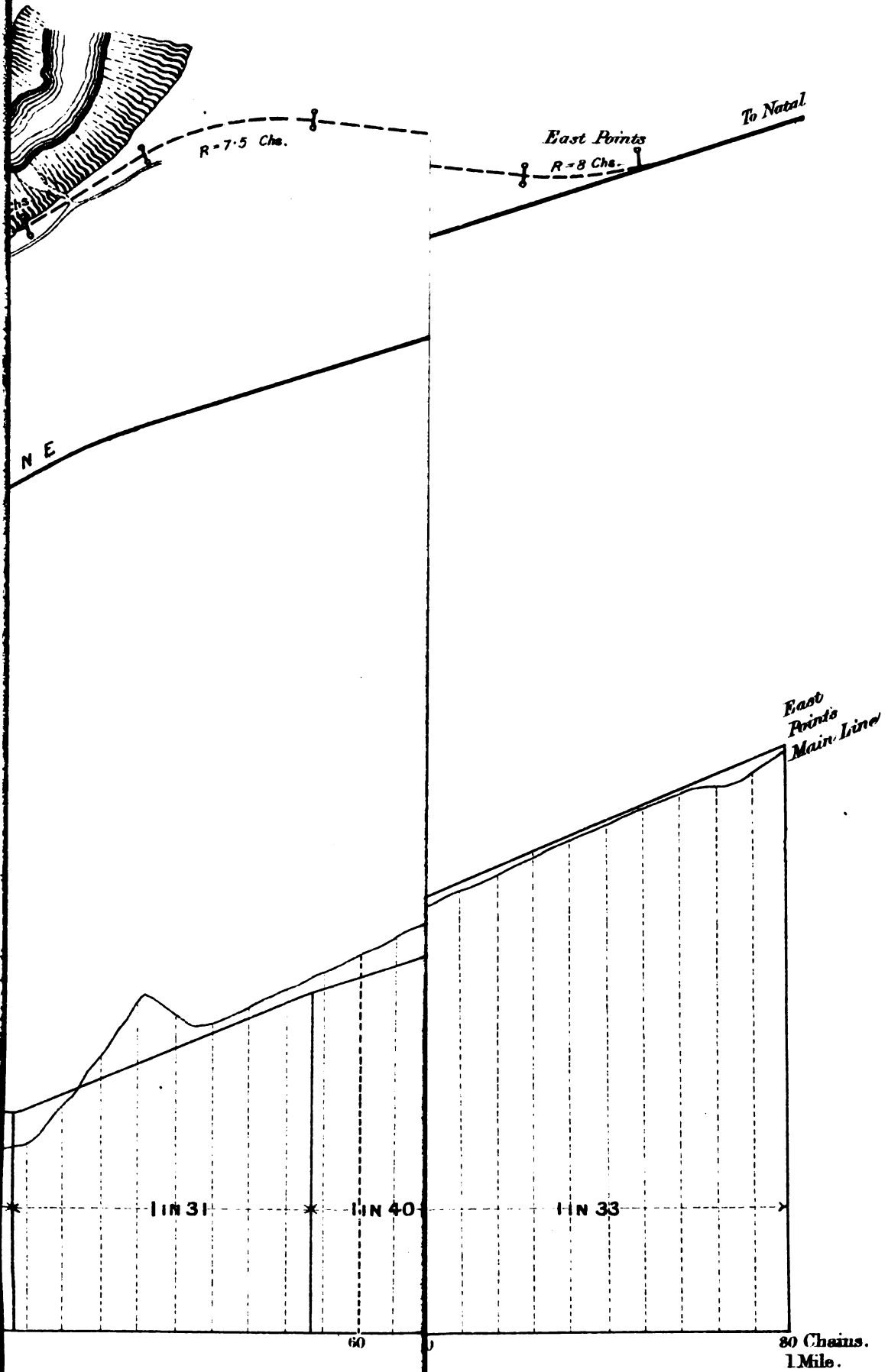
NATAL LINE.

TRESTLE STAGING FOR ERECTING 100-FOOT CLEAR SPANS.

Scale—4 Feet=1 Inch.

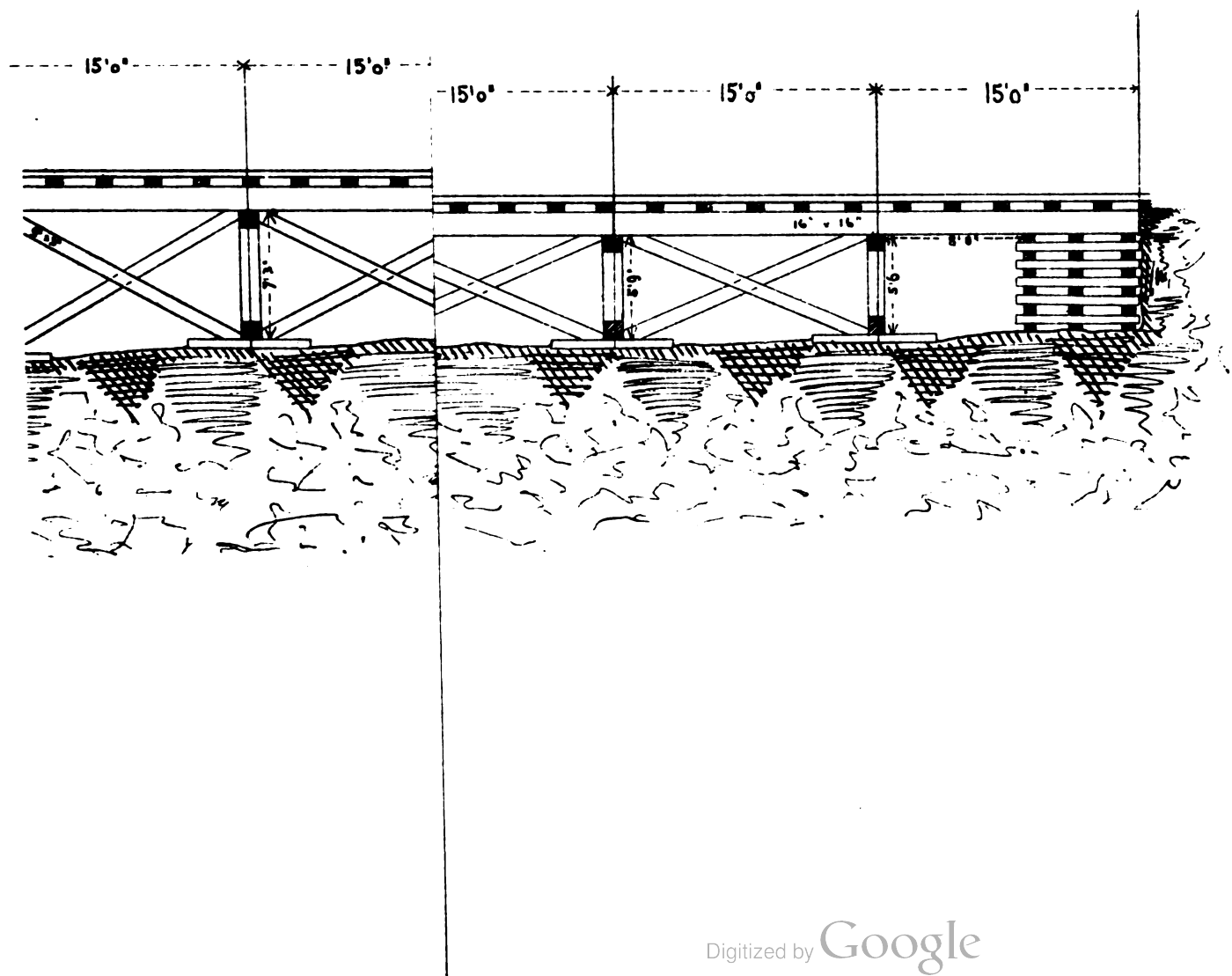
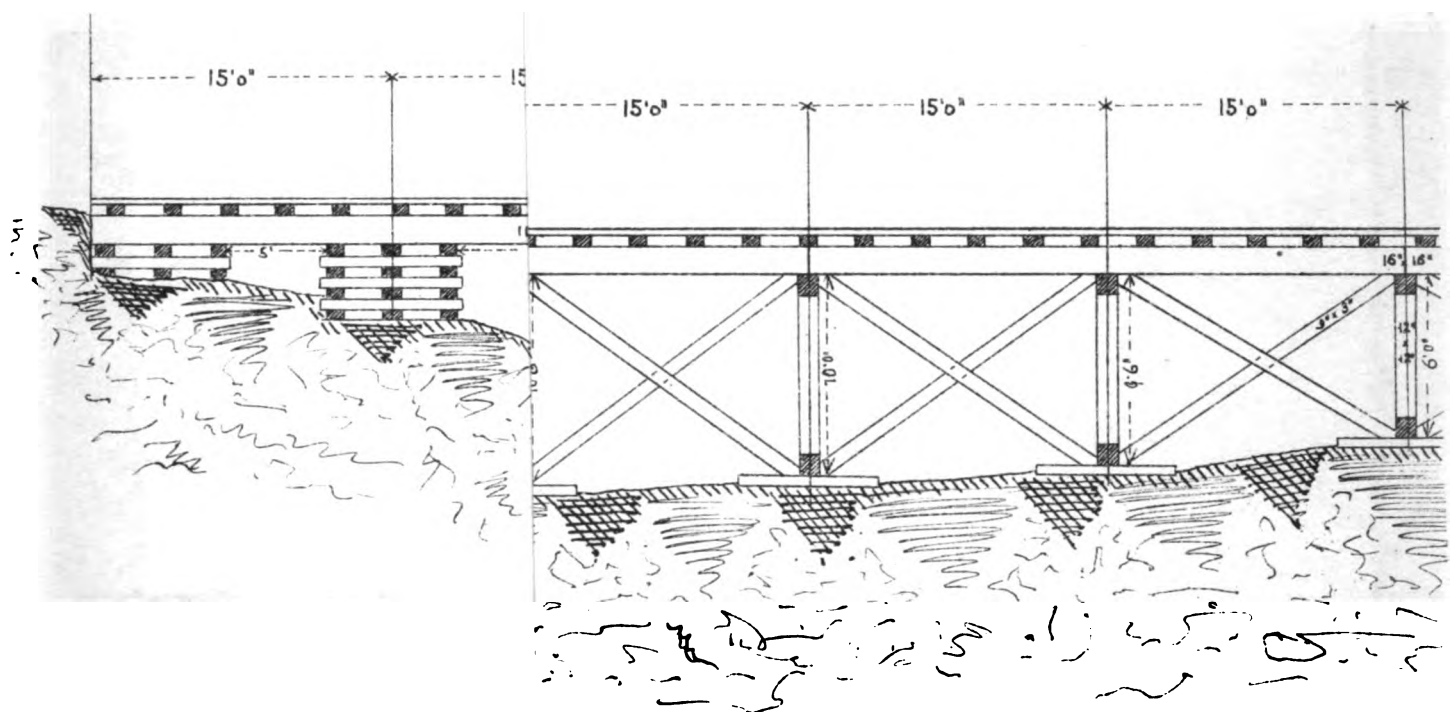


*radius*





Carried out by Nata  
"A"  
17th



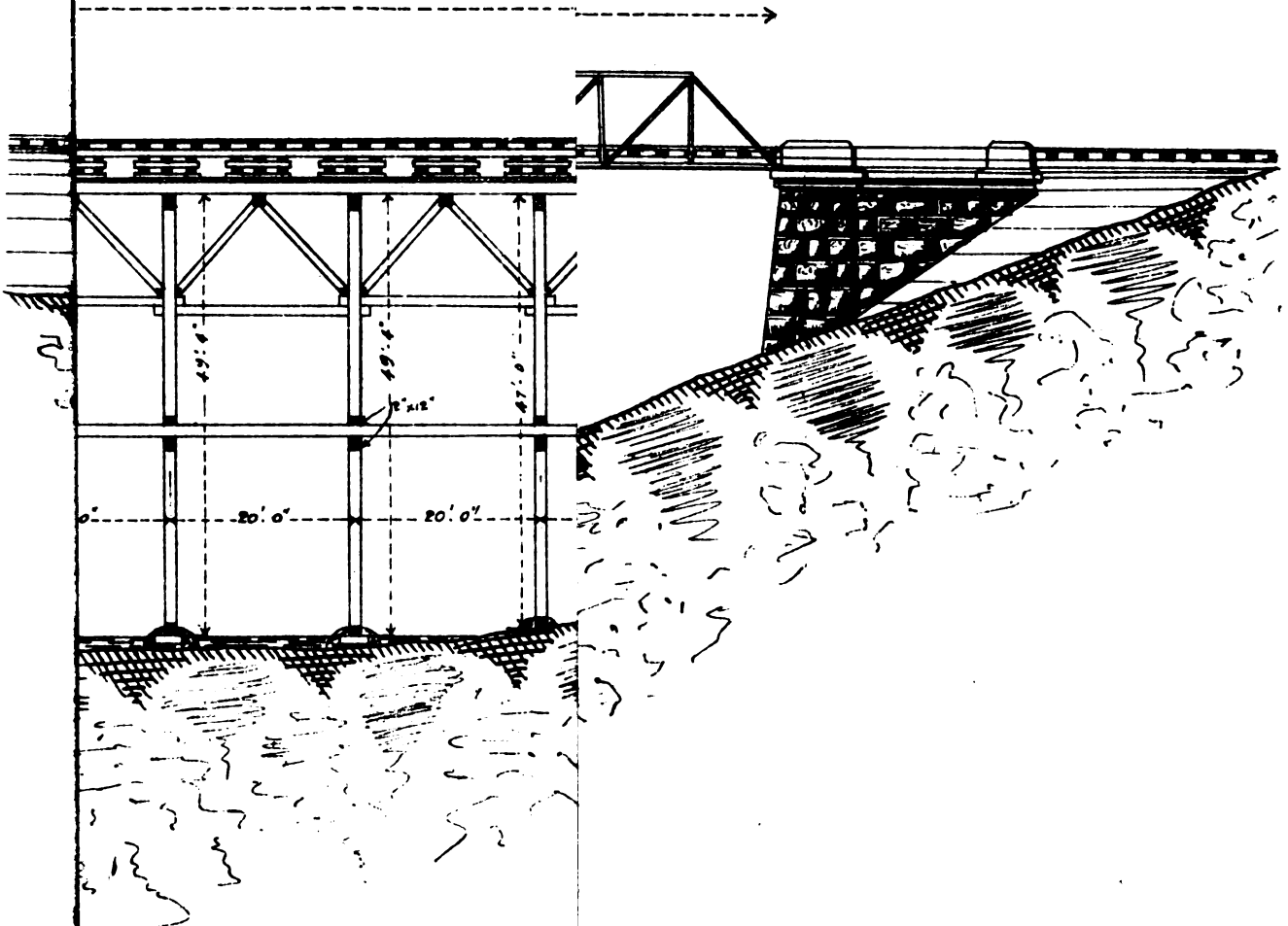


STANDERTON.

LE BRIDGE.

ch.

*ew Girders without stopping Traffic.*

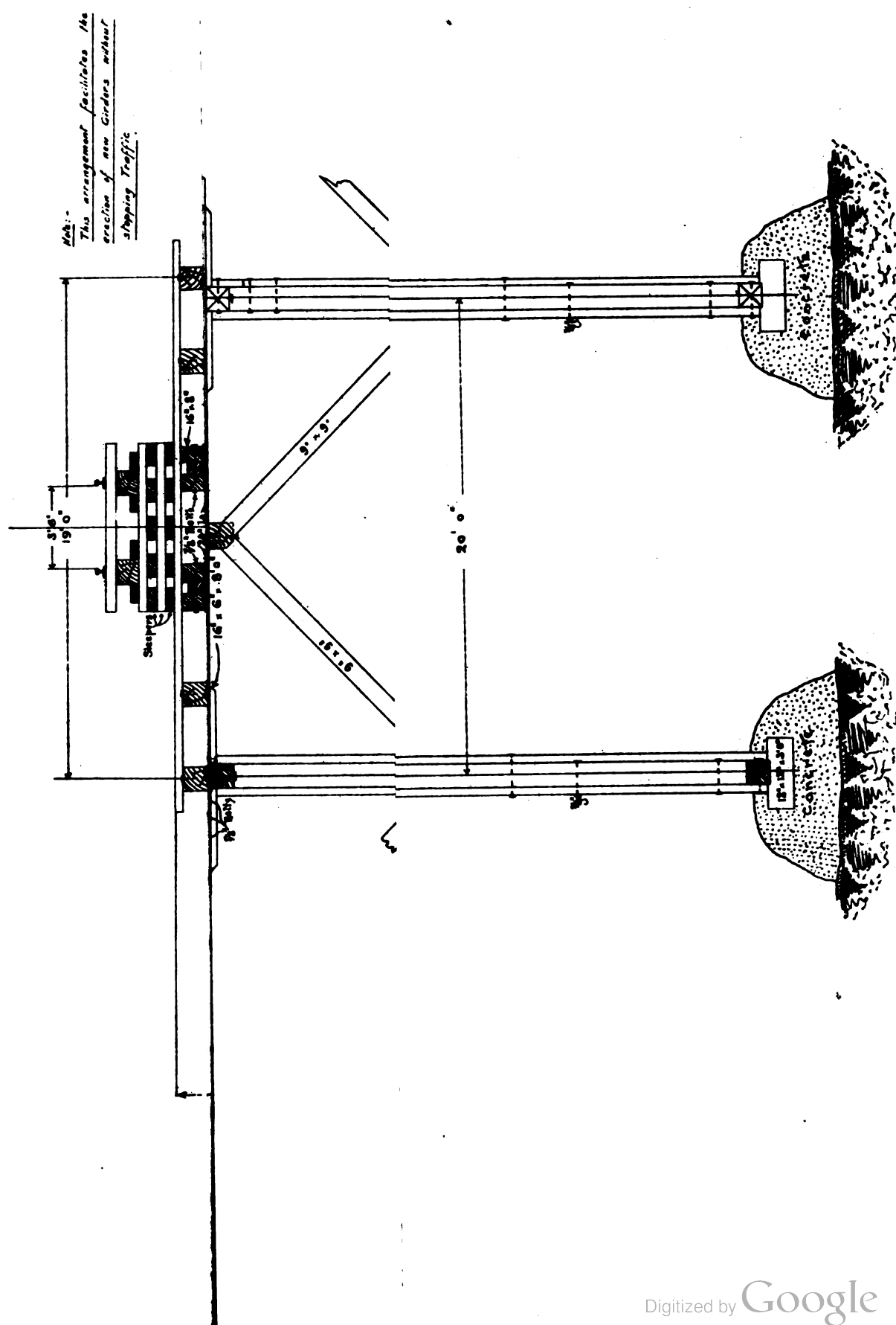






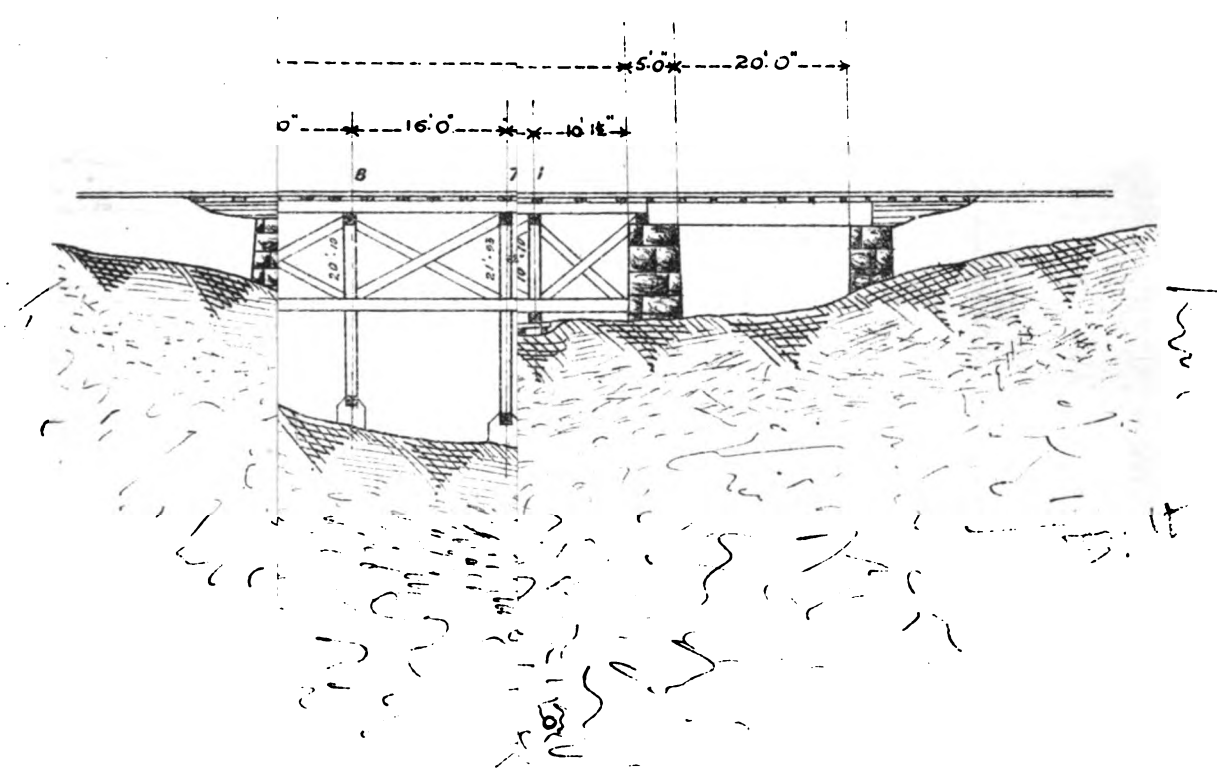
**RTON.**

**LES.**



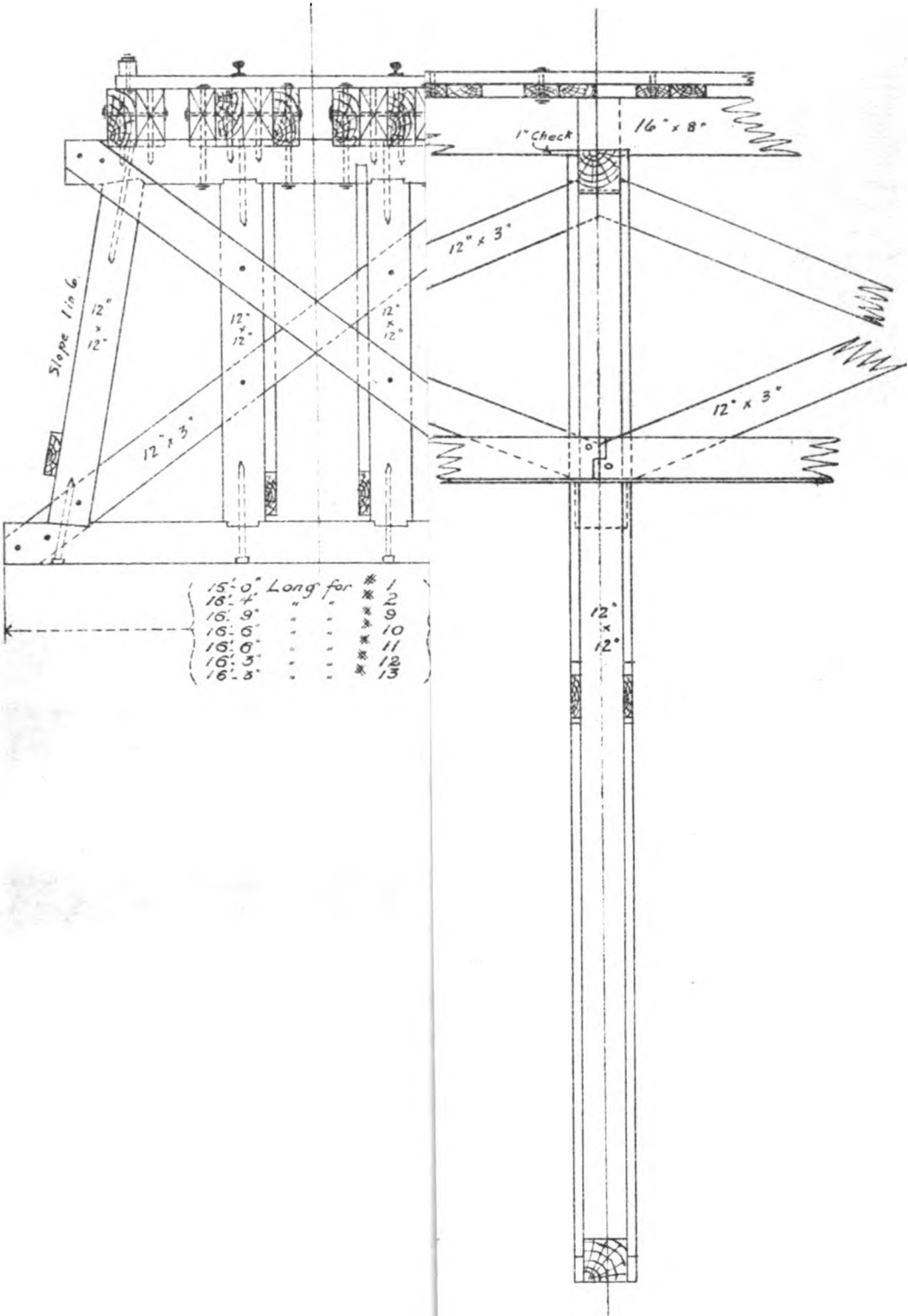


DGE.  
APE COLONY.  
ITTLE BRIDGE.



E.  
neer Regiment.

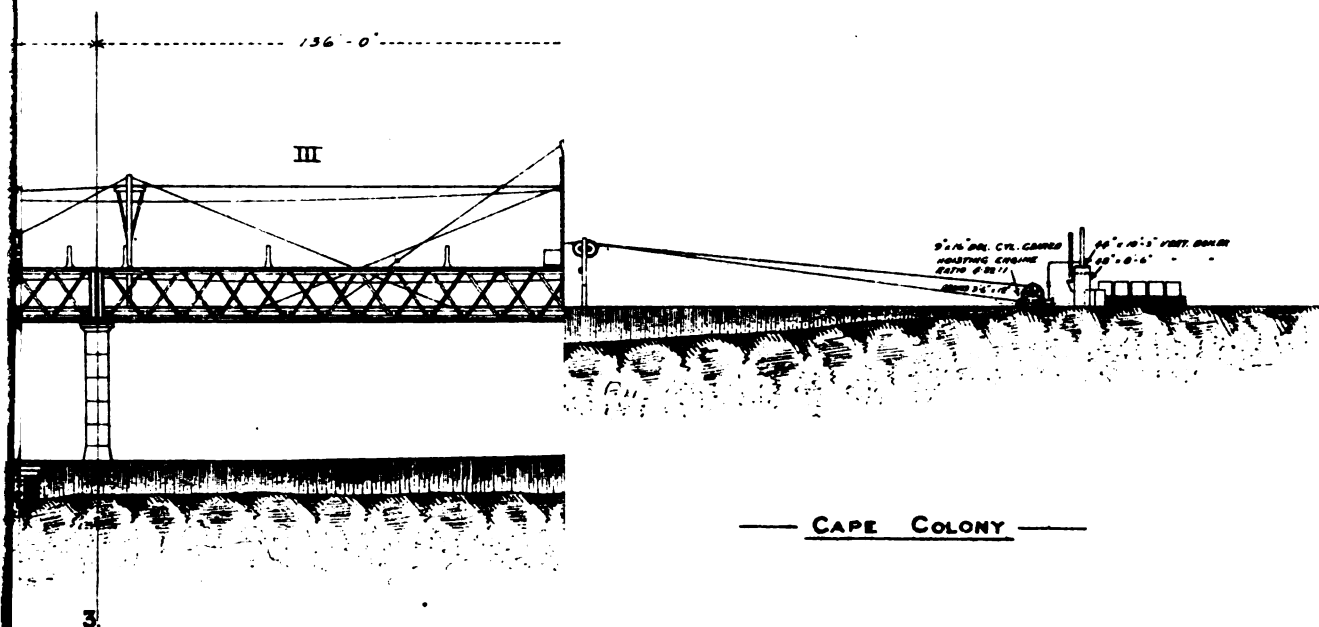








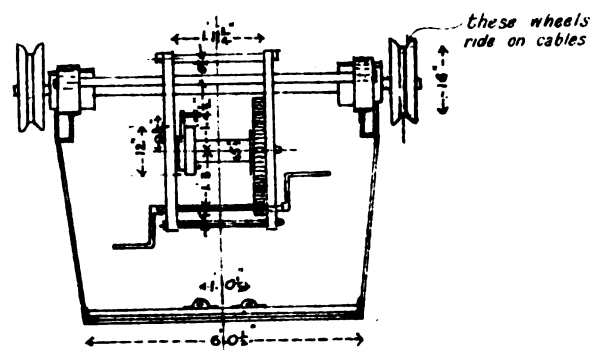
# PLATE 24.



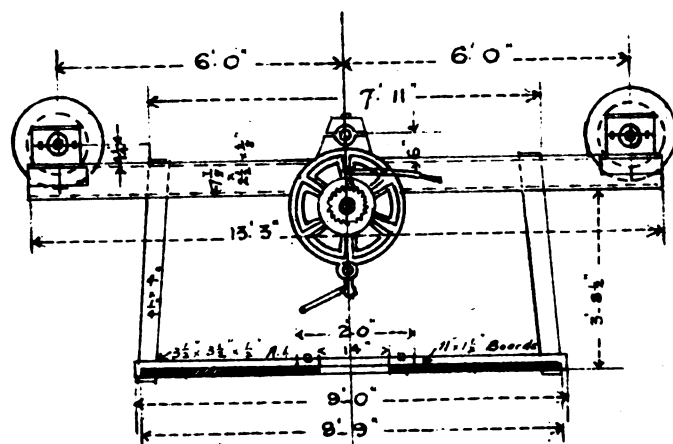


RIVER BRIDGE,  
 BLOEMFONTEIN  
 DETAILS OF AERIAL  
*Scale—4 Feet=1 In.*

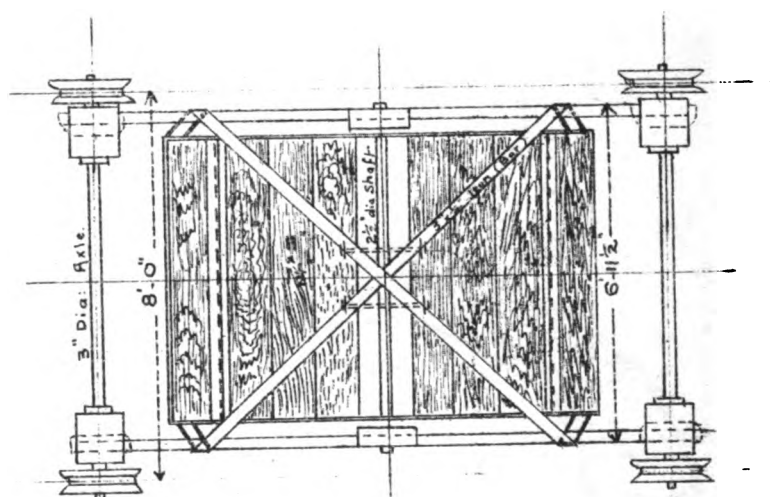
PLATE 25.



CROSS SECTION.

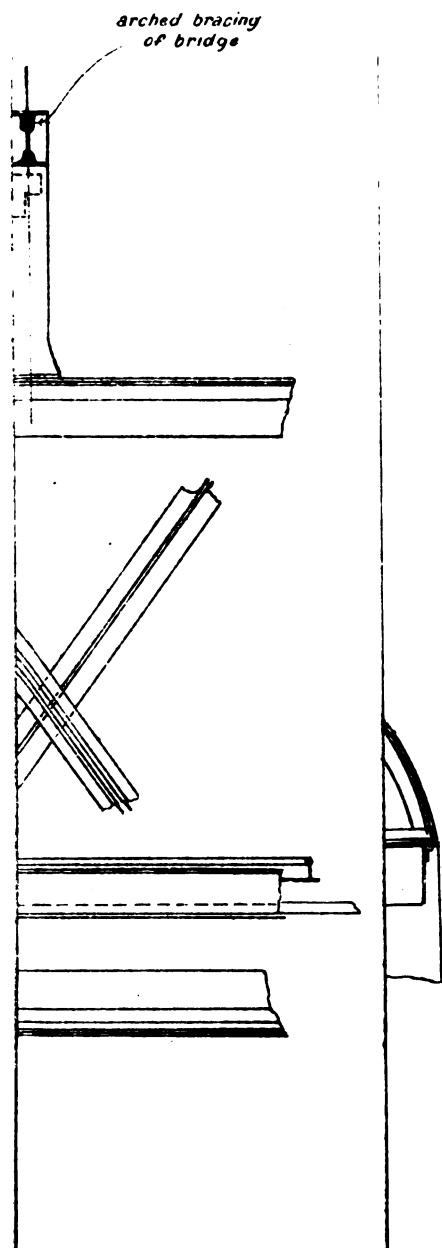


LONGITUDINAL SECTION.

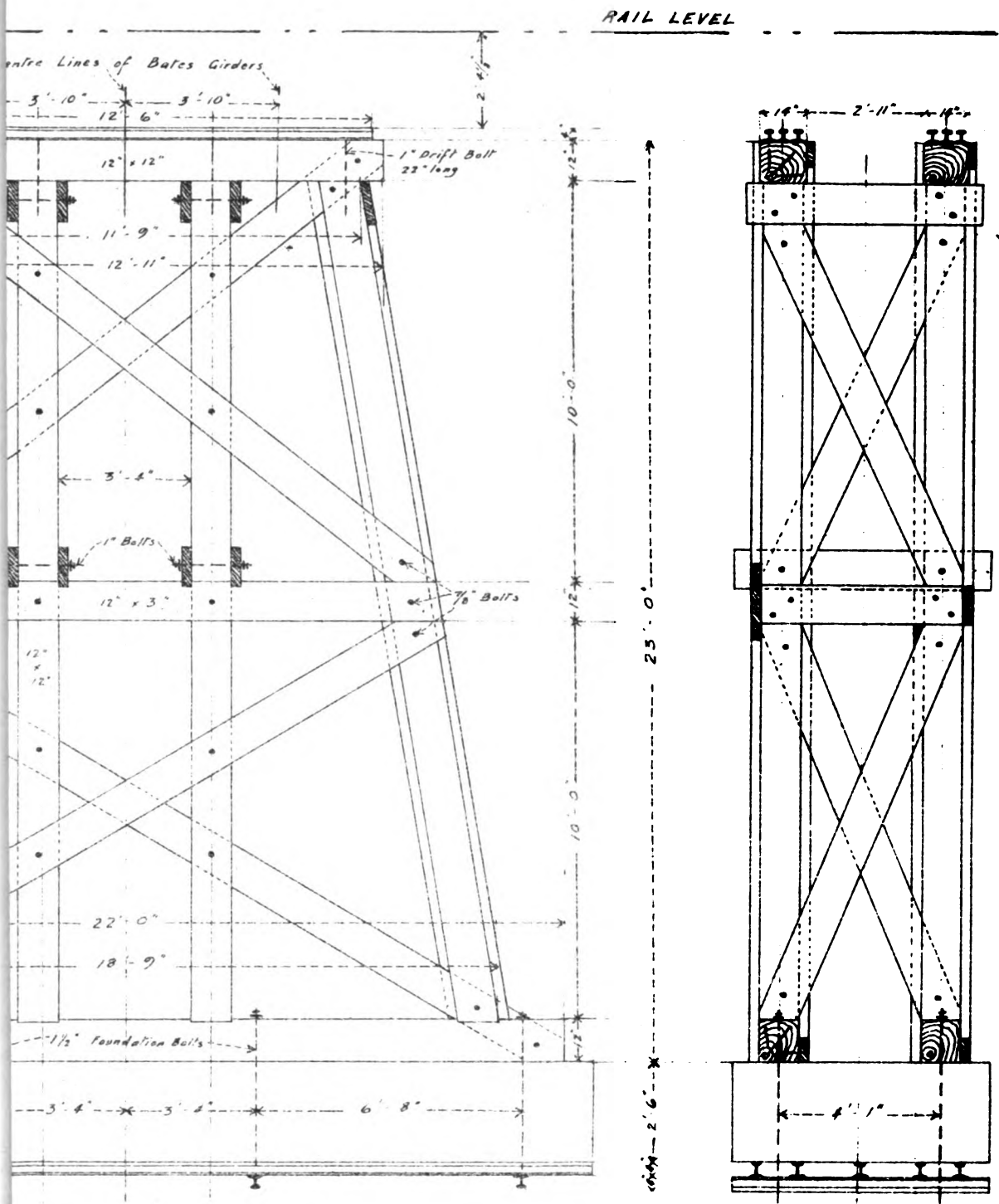


TOP PLAN, HAND WINCH REMOVED.

DETAILS OF TROLLEY.

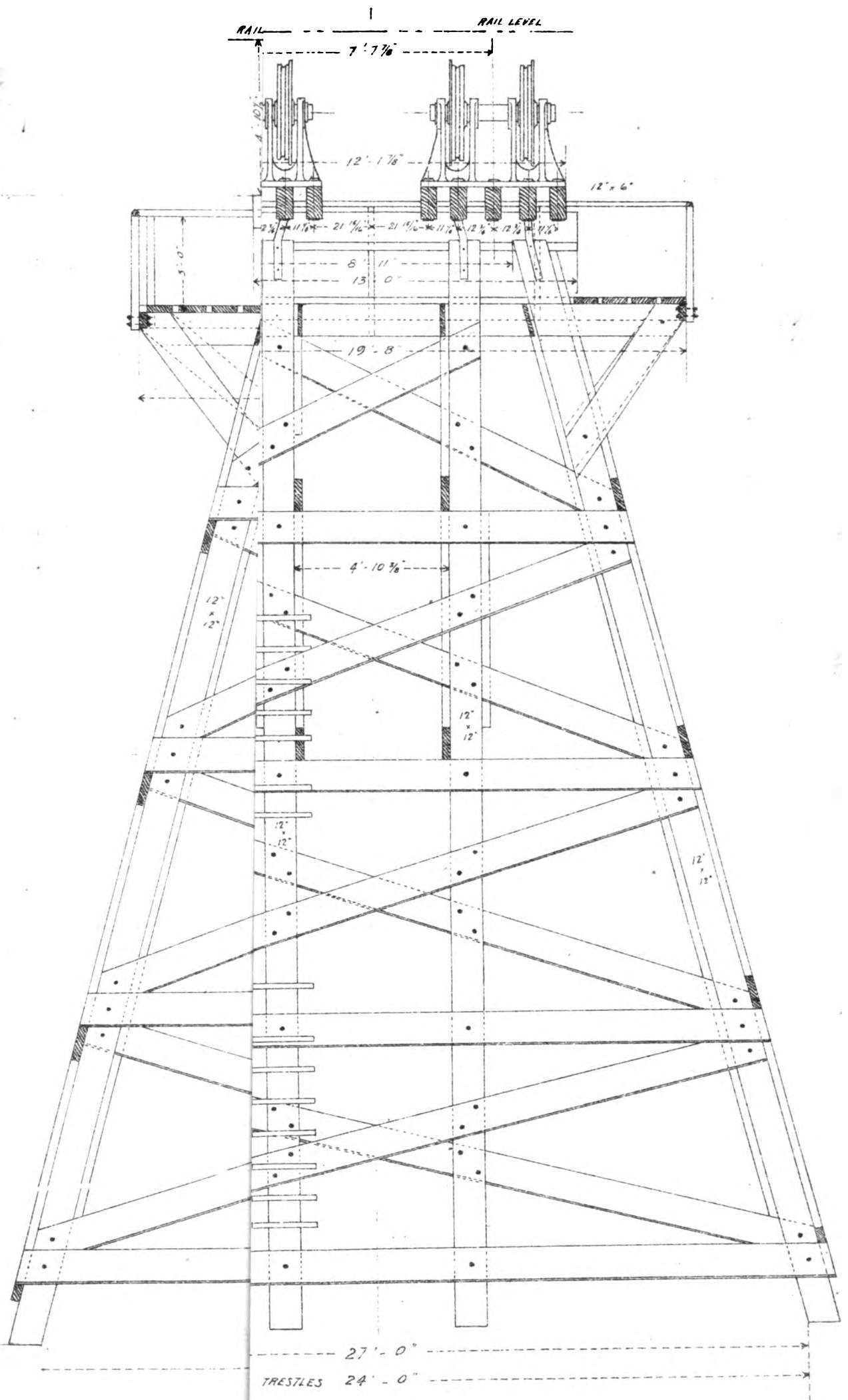






5' TRESTLE, NORTH SPAN







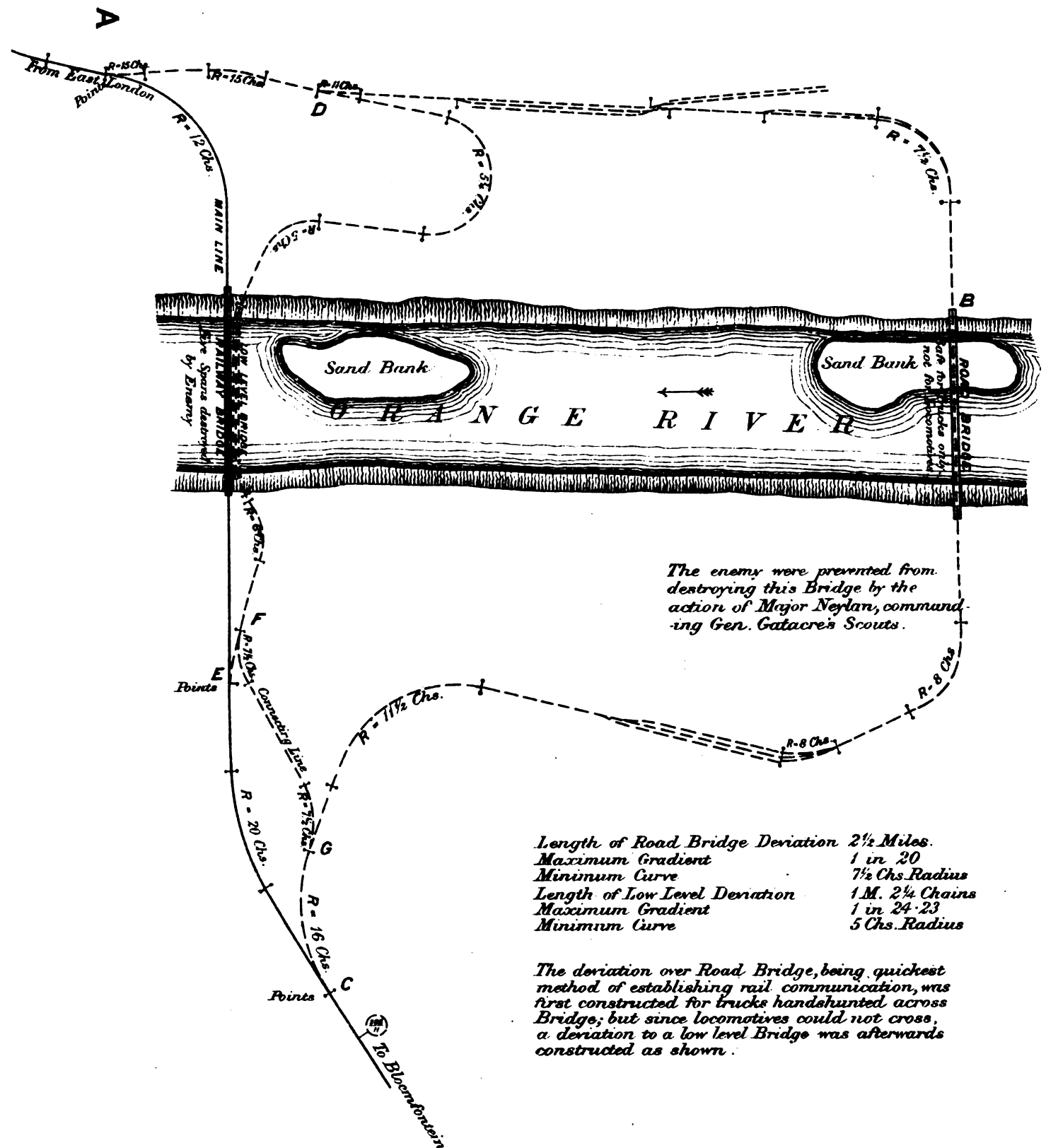


# ORANGE R. BRIDGE, BETHULIE.

## BLOEMFONTEIN LINE.

### PLAN OF DEVIATIONS

Scale, 12 Chains - 1 inch.





RIDC

IN L

DEVIA

PLATE 29.

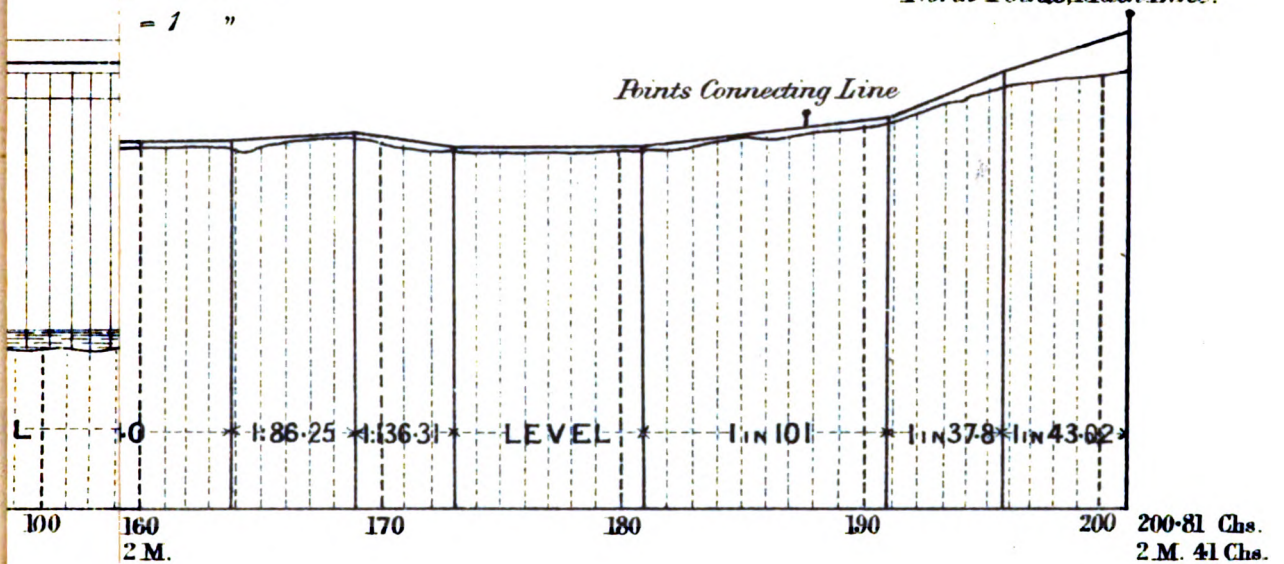
, A. B. C. PLATE 28.

1 Inch.

= 1 "

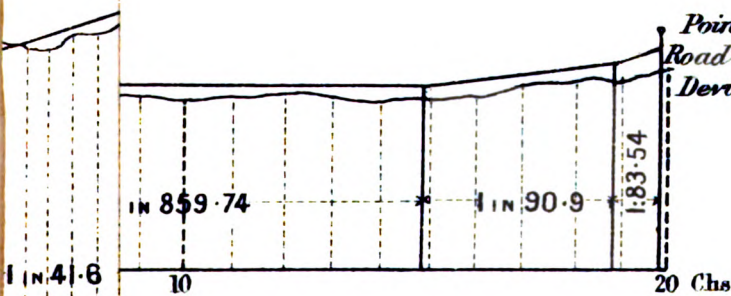
North Points, Main Line.

Points Connecting Line



200.81 Chs.  
2 M. 41 Chs.

Points  
Road Bridge  
Deviation



ING LINE F. G. PLATE 28.

4 Chains = 1 Inch.

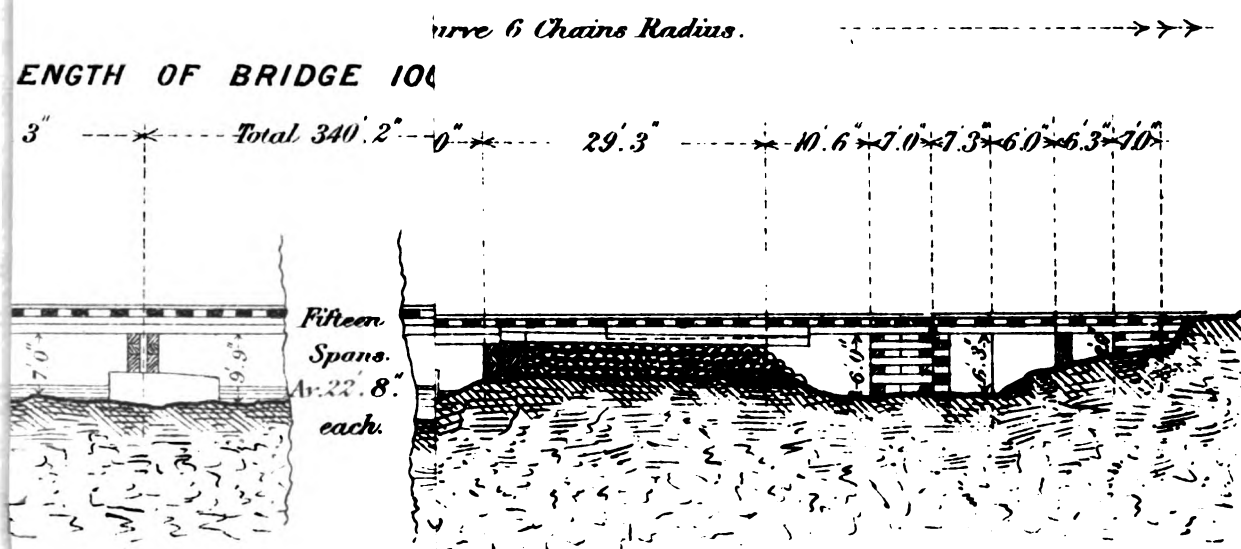
20 Feet = 1 "



ROAD BRIDGE, BI  
MFONTAIN LINE.  
TEMPORARY LOW LEVEL D

PLATE 30.

Scale 20 Feet = 1 Inch.



ly used by C.G.R. on first const  
consequently their bearing on riv

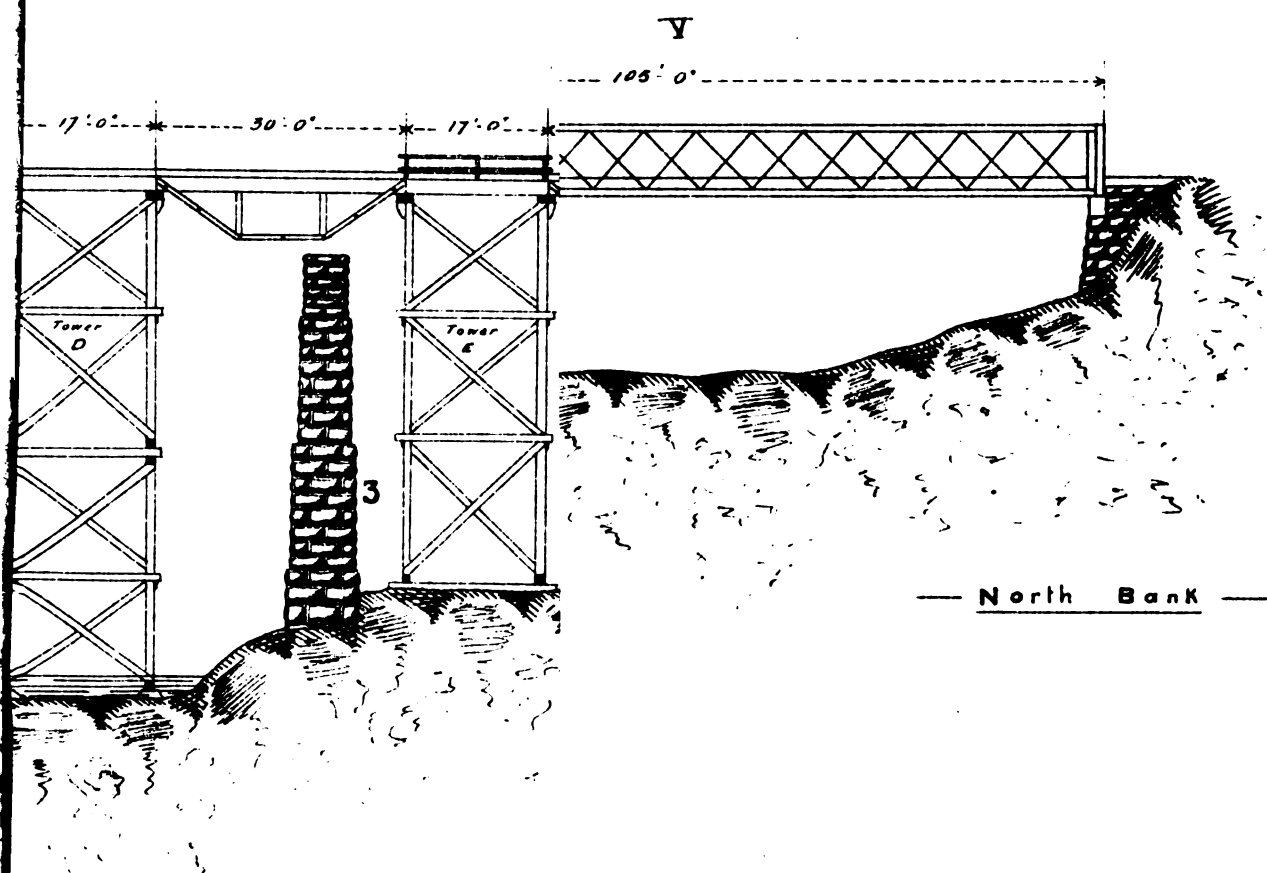


BRIDGE.

TORIA LINE.

STLE BRIDGE.

*approximately*

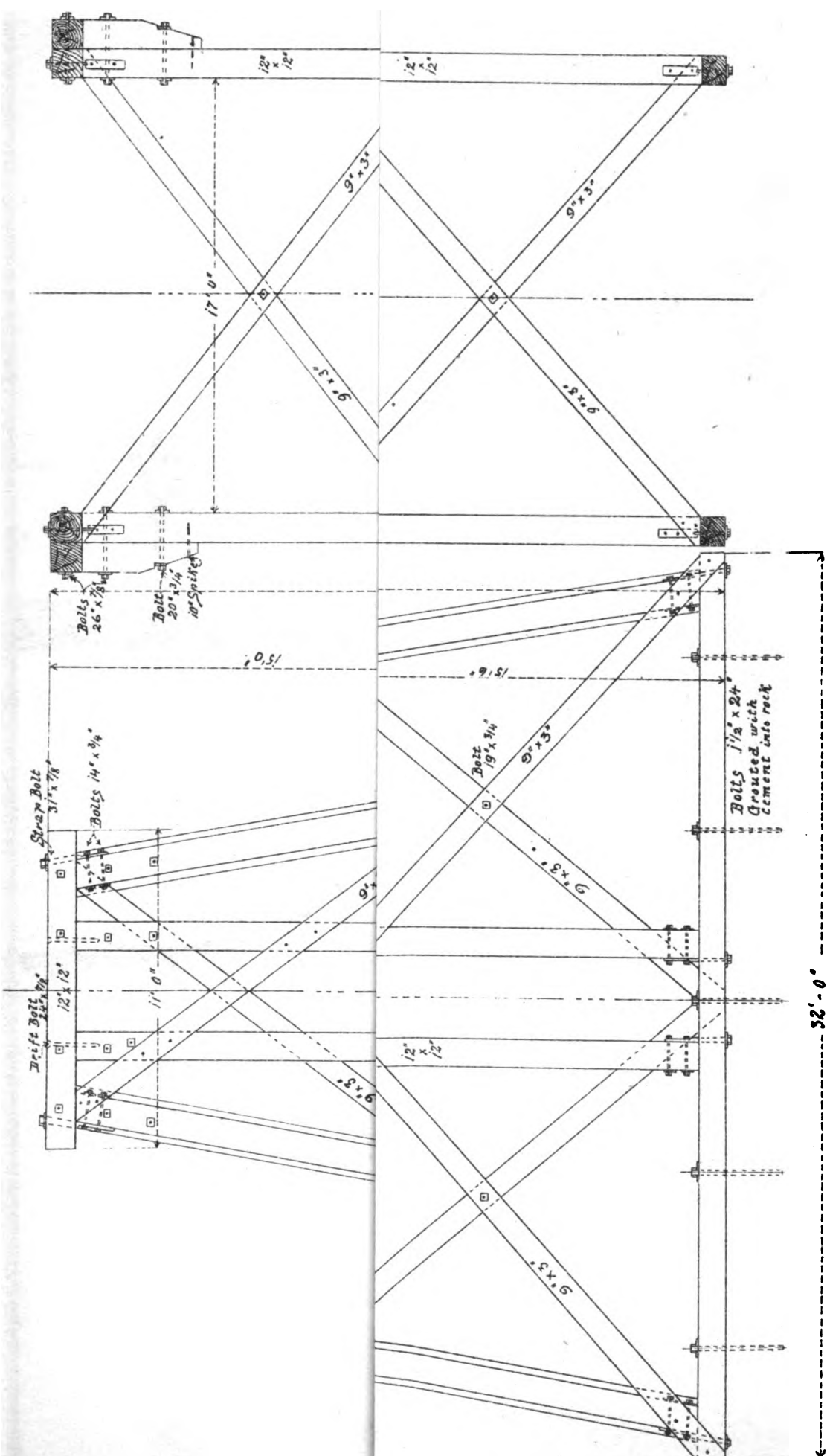






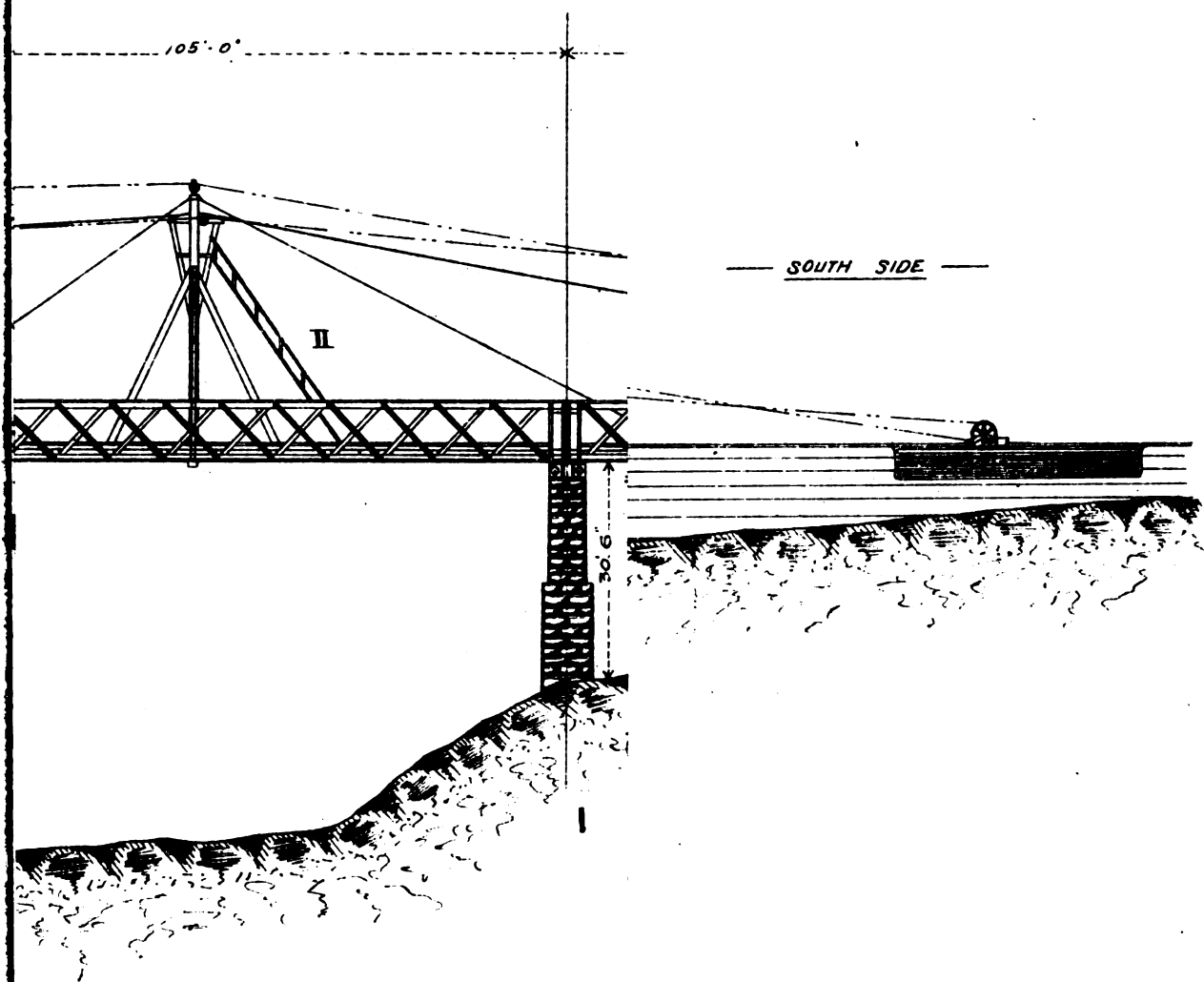






TOWERS C & D



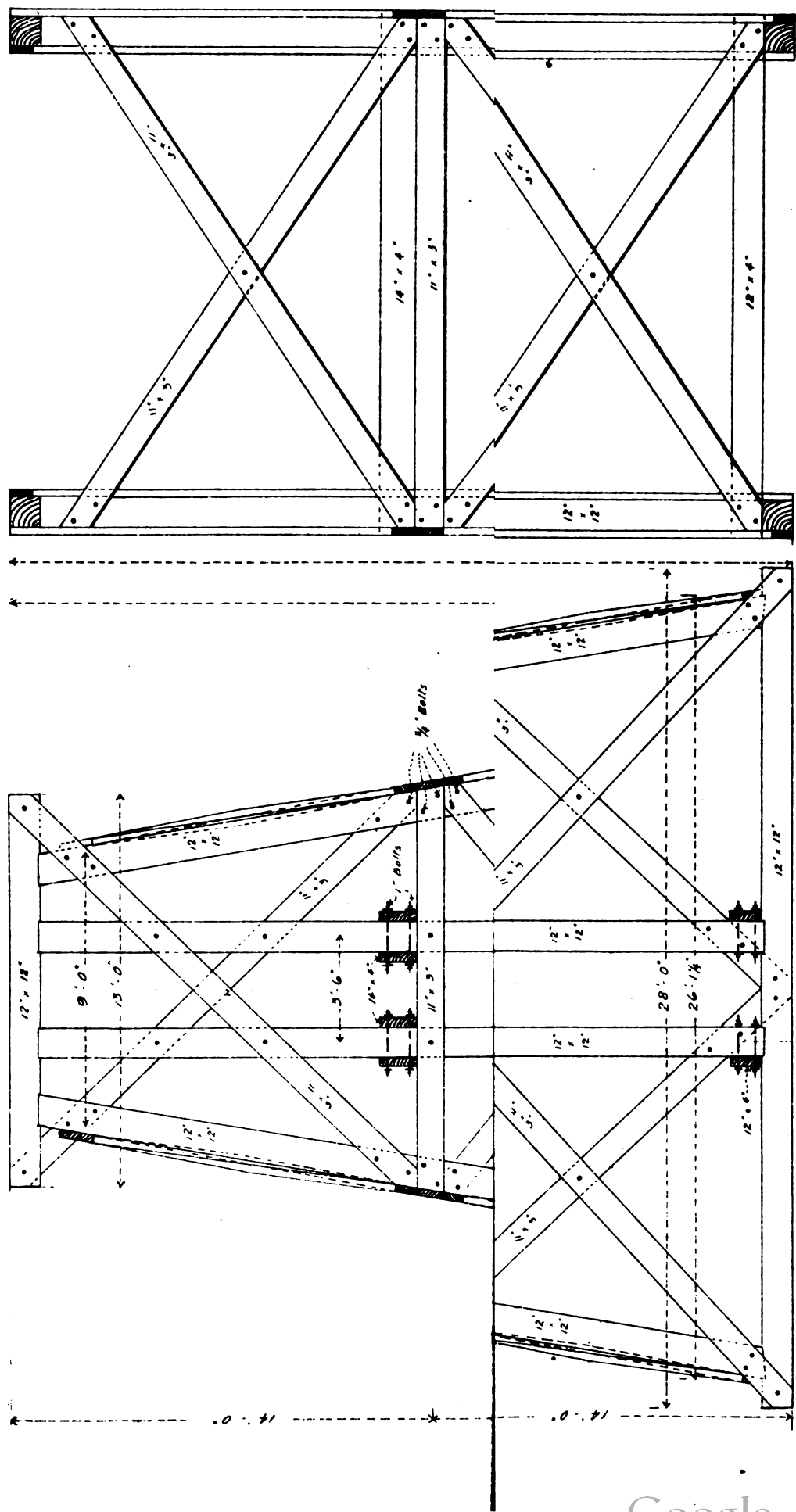












— TOWERS D, E & F —



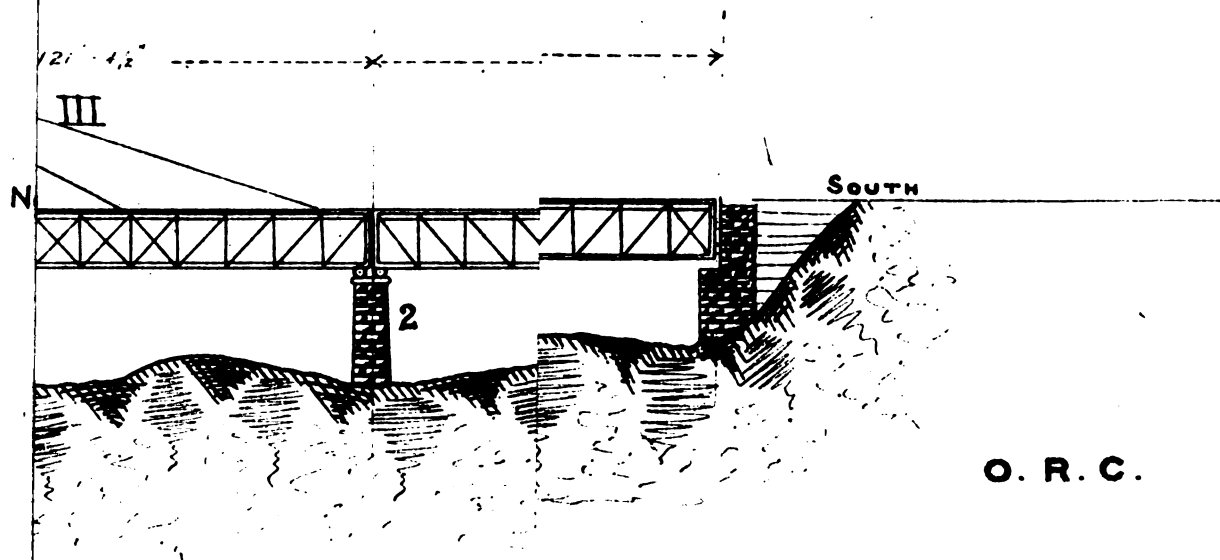




INGING.

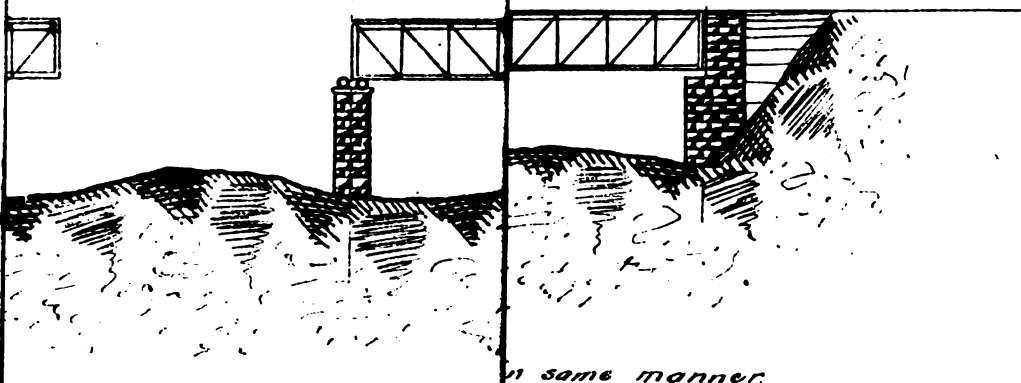
E.

OF GIRDERS.



HE ENEMY

$121' - 4\frac{1}{2}"$



GIRDERS



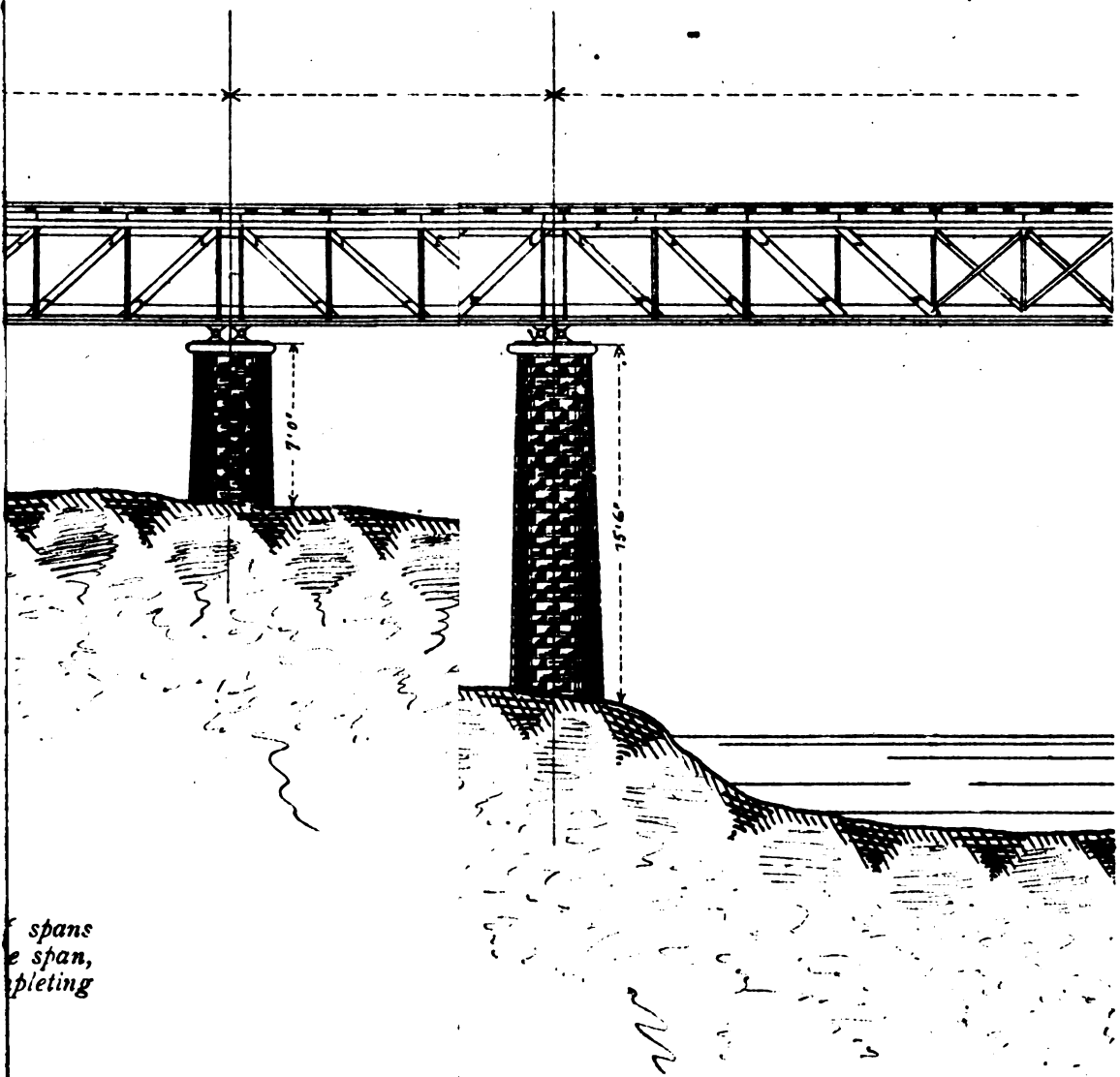
ENIGING.

IE.

TH END.

S.

SPAN 4



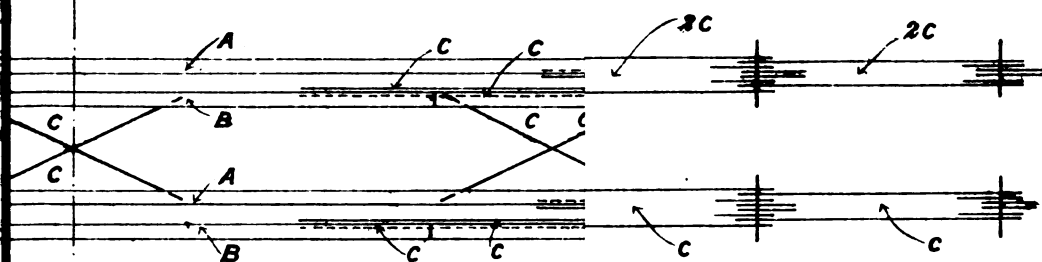
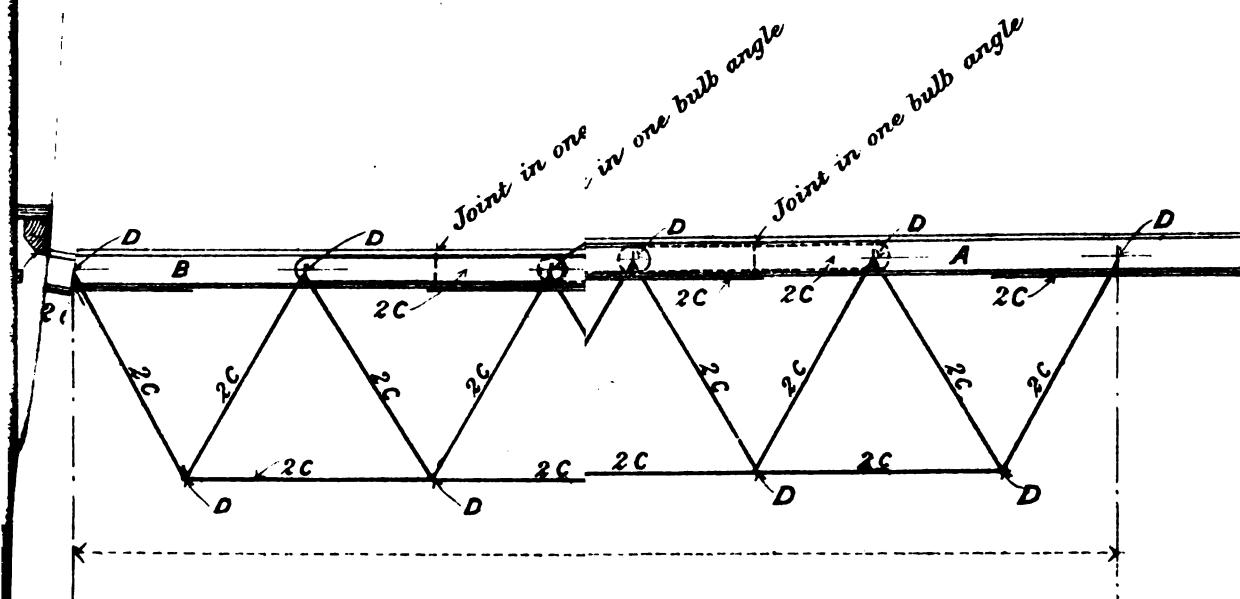
spans  
e span,  
pleting



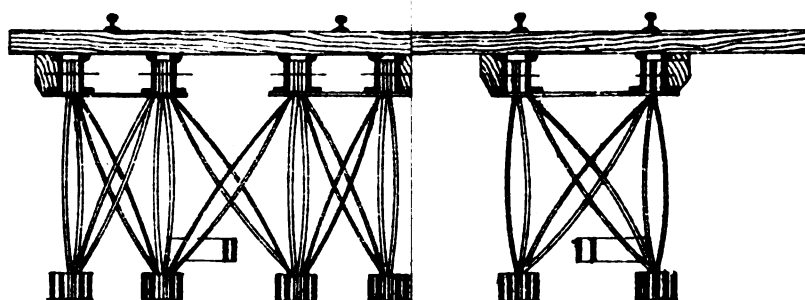








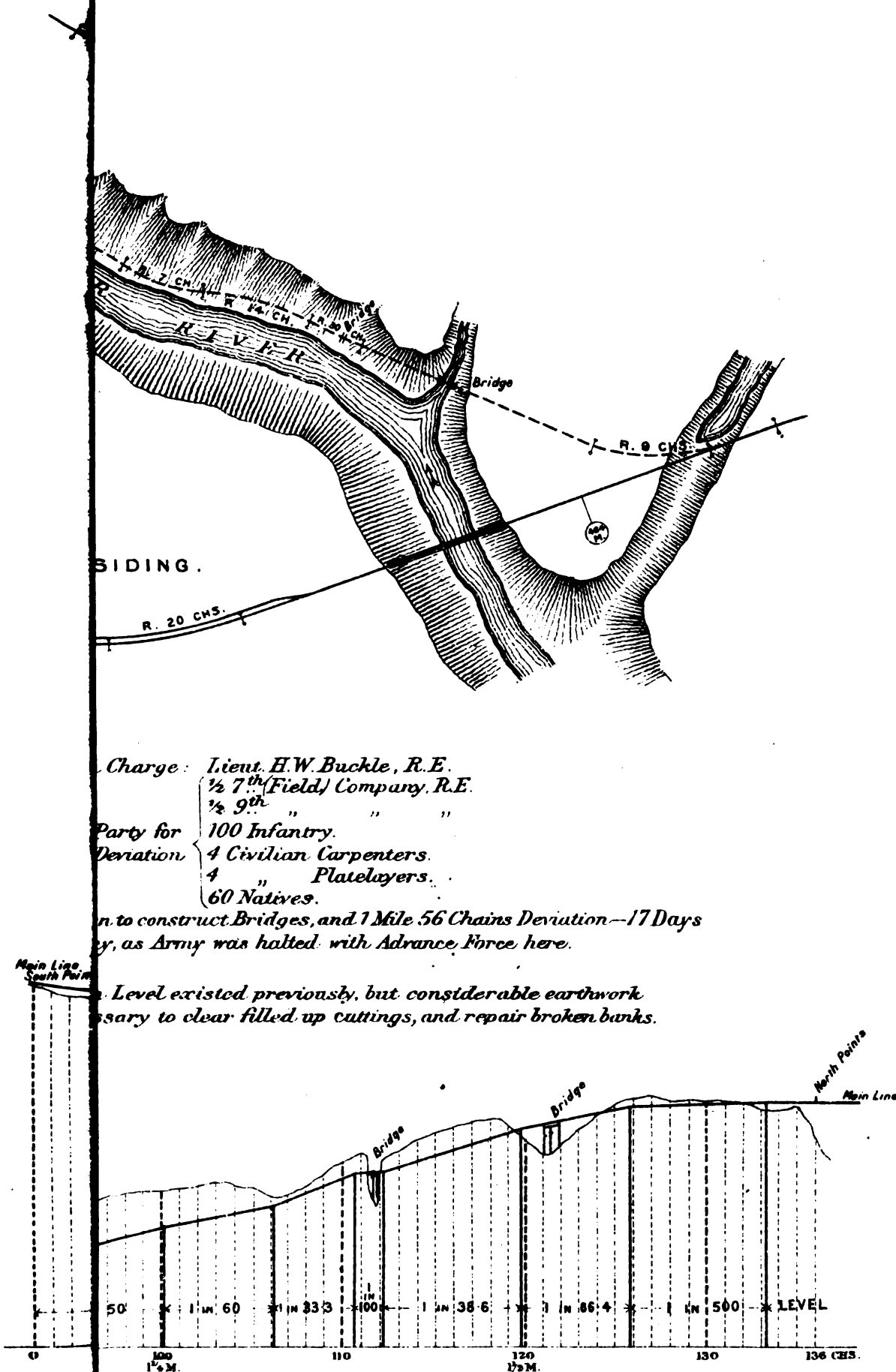
PLAN.



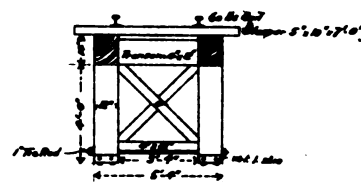
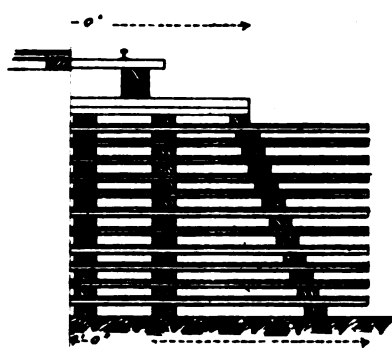
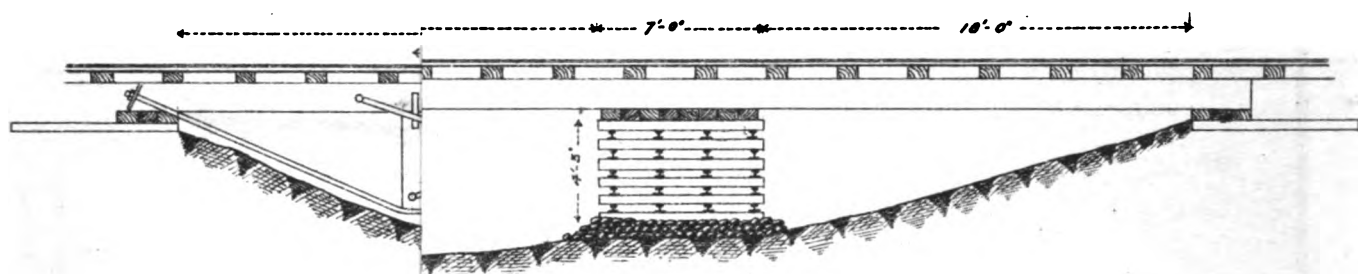
SECTION ADAPTED FOR 4' 8" ADAPTED FOR 2' 6" GAUGE.

Maximum distributed dead load	on distributed dead load	80 tons
do. single load as on one axle	single load as on one	} 8 "
and pair of wheels	axle and pair of wheels	
do. rolling load at speed of	rolling load at speed of	} 53 "
15 miles per hour	15 miles an hour.	









SECTION OF TRUSS AT A.B.

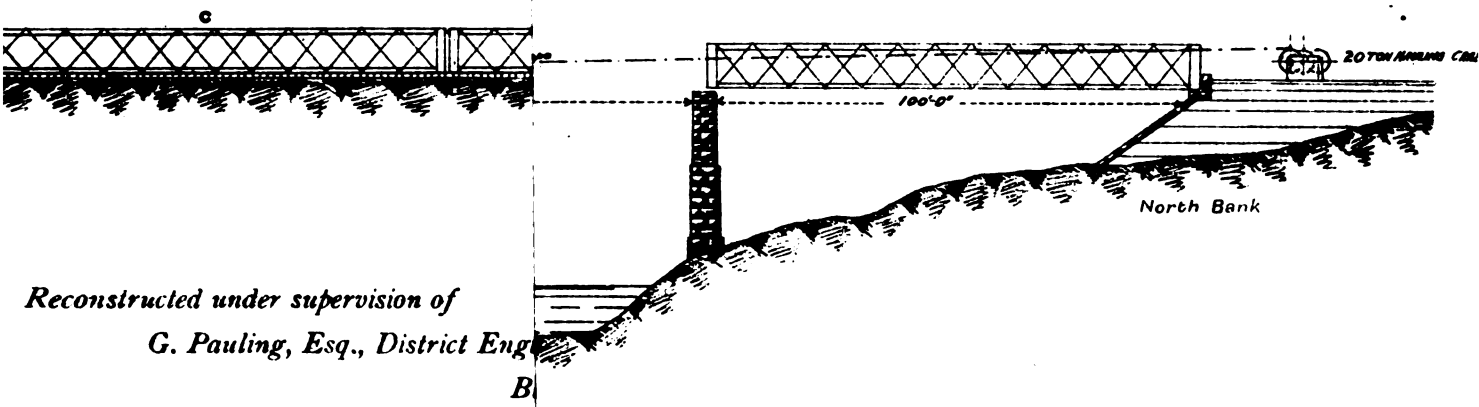
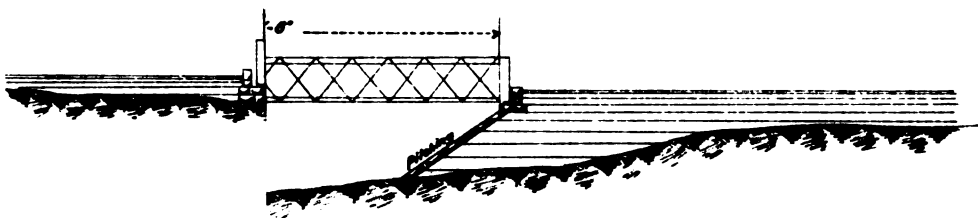
PIER

*in Charge: Lieut. H. W. Buckle, R.E.*  
*ing Party: ½ 7th (Field) Company, R.A.*  
*½ 9th " "*  
*100 Infantry.*  
*4 Civilian Carpenters and 4*  
*60 Natives:*

*taken to construct Bridges and 1 mile*  
*eviation—17 days. (Army was halted a*  
*no urgency).*



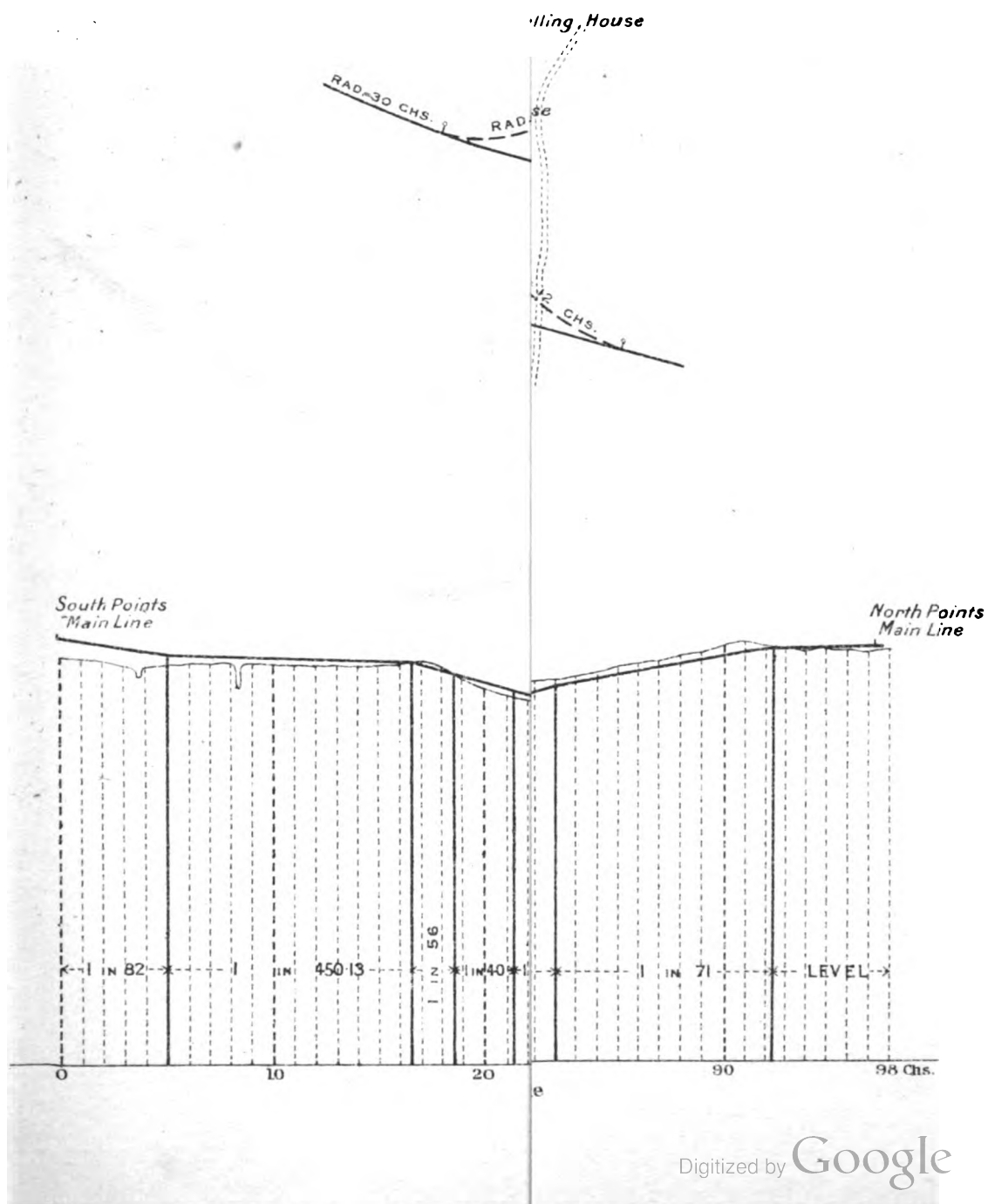






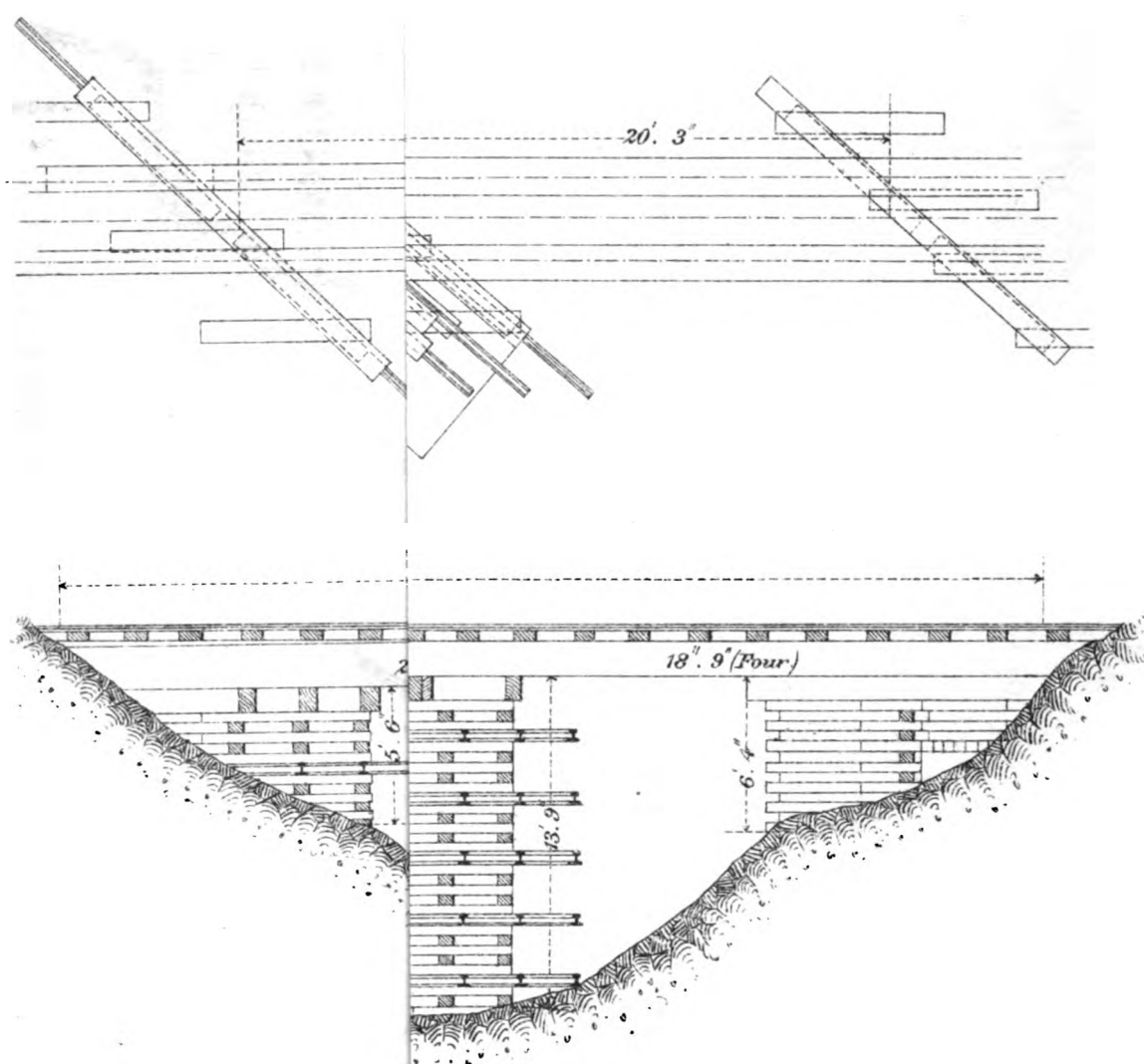
1. Micklem, D.S.O. R.E.  
 10 Non Commissioned Officers & Men 10th (Railway) Company R.E.  
 17 " " " 42nd (Fortress)  
 m. Troop R.E.  
 ficers  
 // platelayers  
 permanent way inspectors.  
 rs.  
 rs.  
 Light Section Volunteer Engineers under Capt. F.L. Lloyd R.E.  
 Working Party, averaging 400.  
 rs

Length of Deviation 1 Mile 18 Chains  
 Maximum Gradient 1 in 36.29  
 Minimum Curve 5 Chains Radius

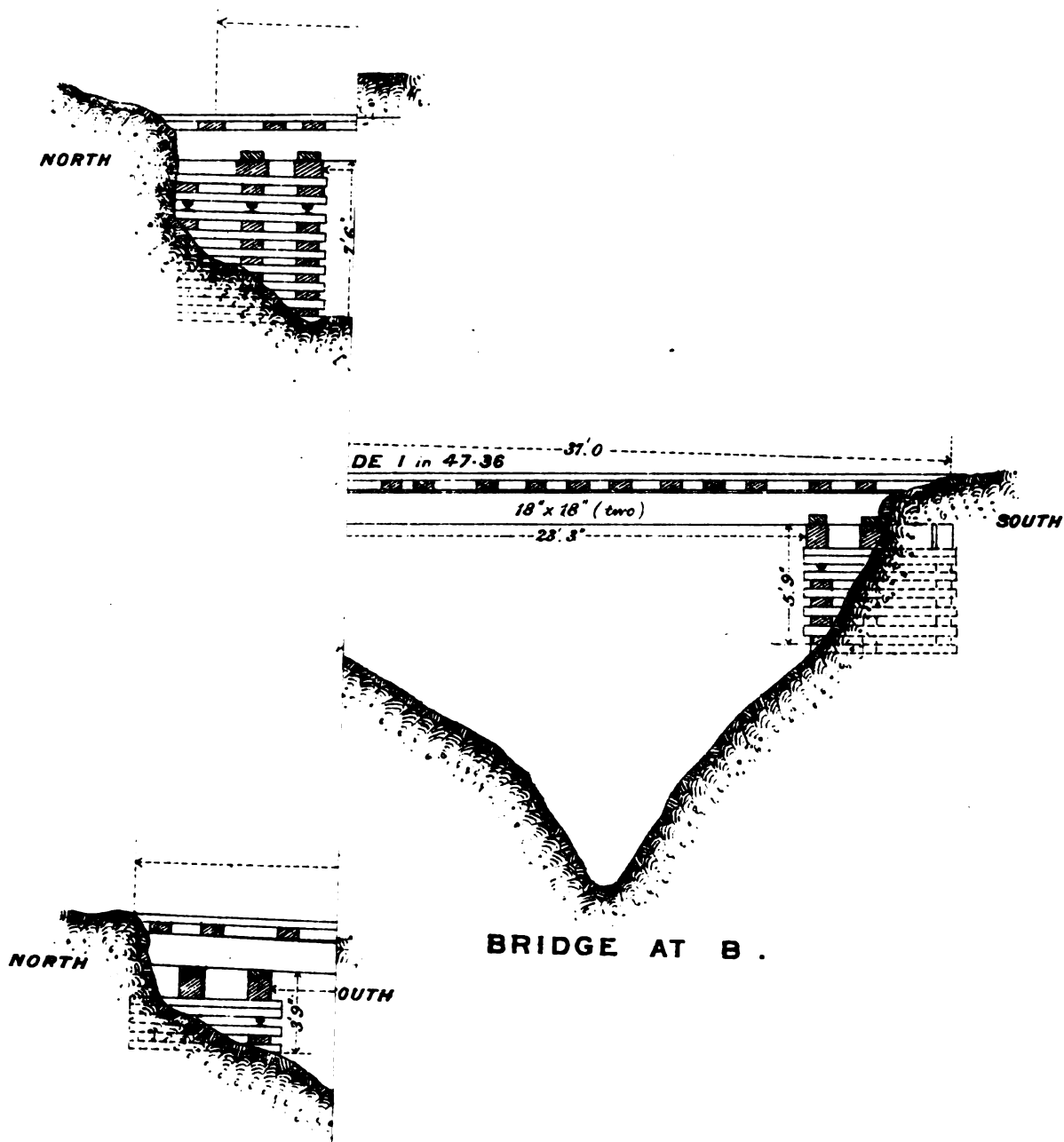




# PLATE 46.

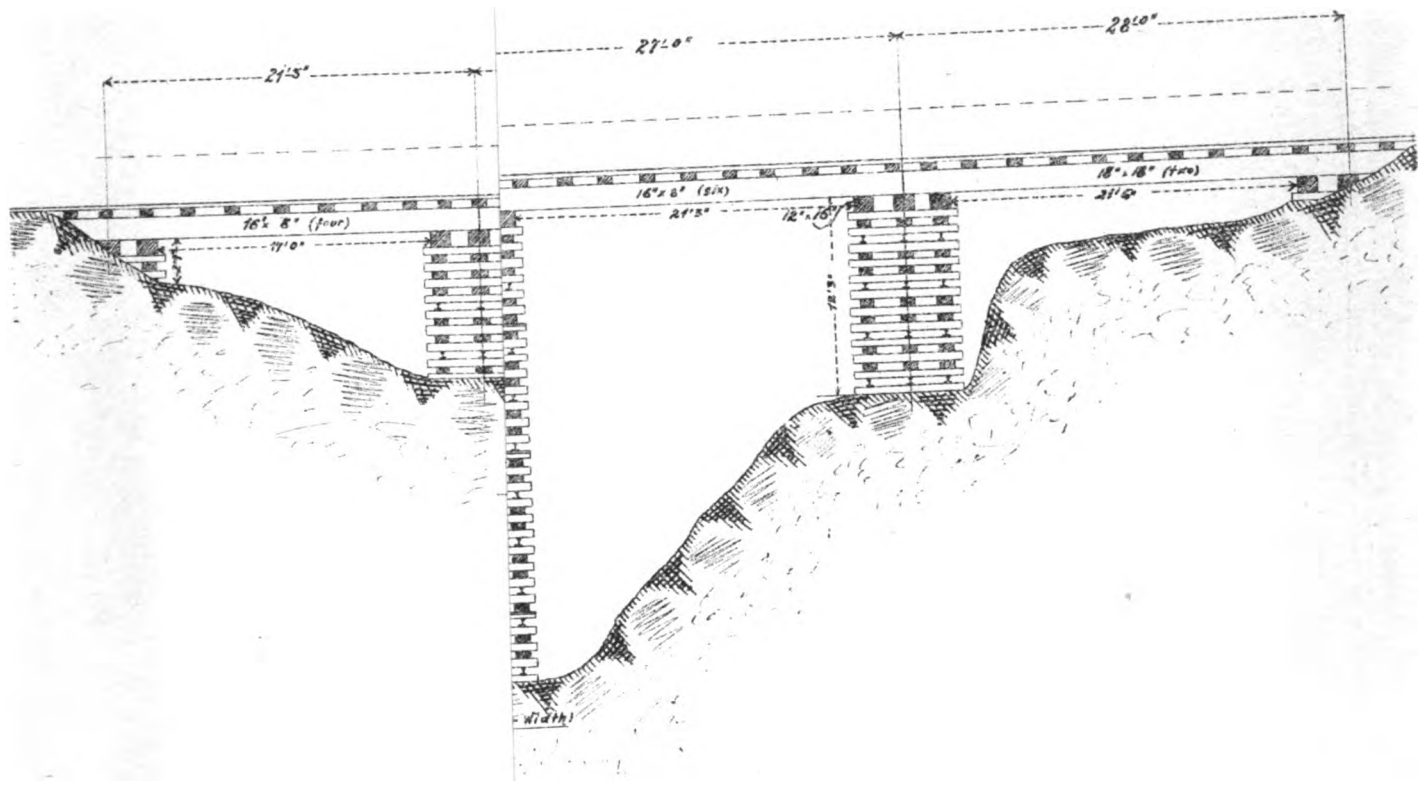








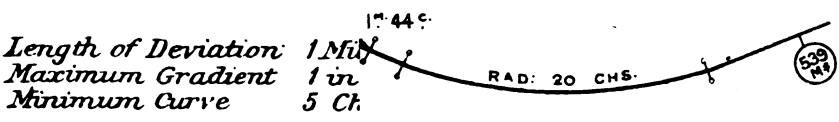




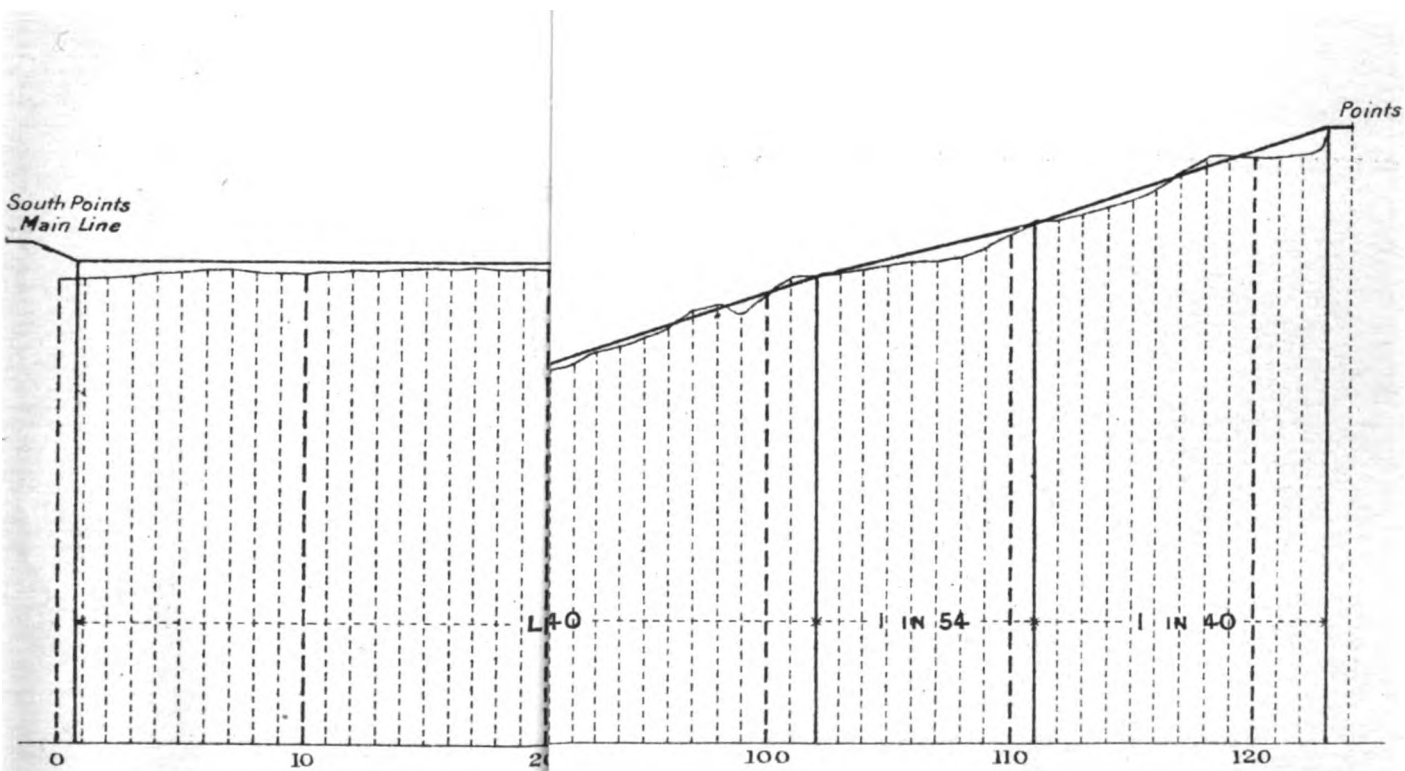
Officer in Charge :  
Working Party :

Time taken :



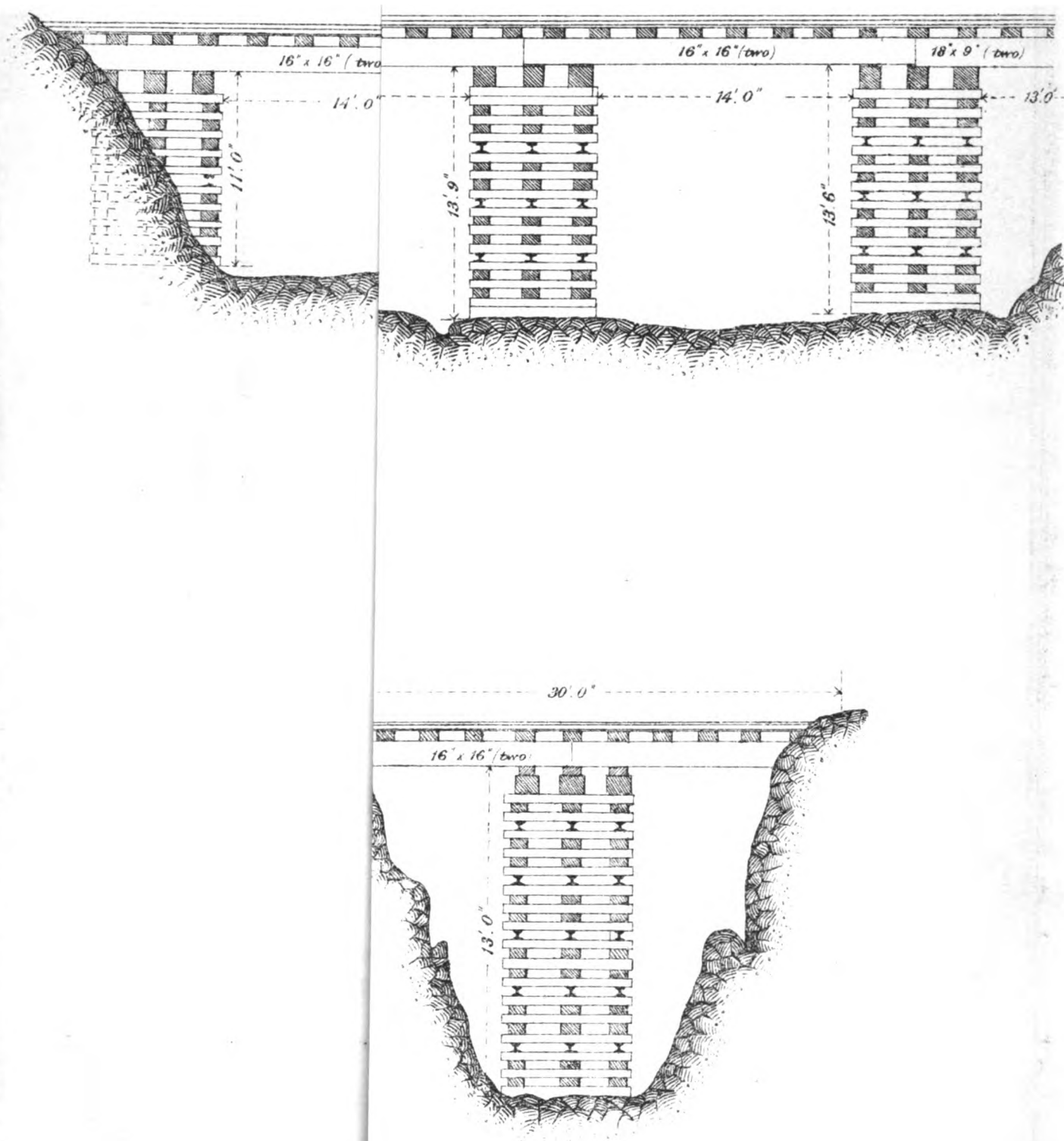


Lieut. H.A. Micklem. D.S.O., R.E.  
Ricer, 40 Non-Commissioned Officers & Men 10<sup>th</sup> (Railway) Company R.E.  
Ricer, 47 " " " " 20<sup>th</sup> (Fortress) Company R.E.  
E. Officers. 42<sup>nd</sup> (Fortress) Company R.E.  
Infantry details.  
Natives.  
Civilian Gangers and 2 Permanent Way Inspectors.  
Electric Light Section. Volunteer Engineers under Capt. F.L. Lloyd R.E.  
Infantry, averaging 300  
Construct temporary Bridges and 1 Mile 44 Chains Deviation, 5 days 10 hours.





Officer in Charge: Lieut. H.A. Mica  
 Working Party: 1 Officer, 40 N.C.  
 1 " 47  
 20 N.C. O's & Men  
 Electric Light S  
 4 R.E. Officers  
 33 Infantry deta  
 2 Civilian perma  
 30 " gange  
 750 Natives  
 Infantry party.  
 Time taken for bridges and 1 mile  
 See also Plates 34, 35, 36





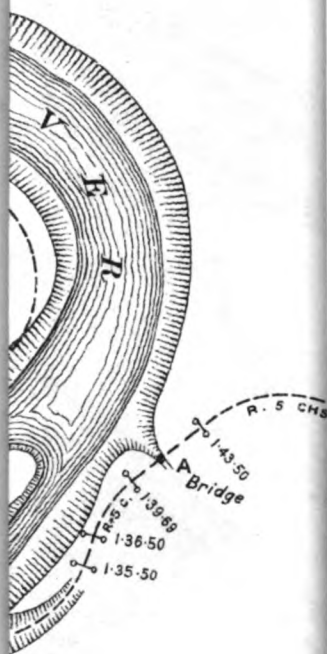
NSTAD.

PLATE 52.

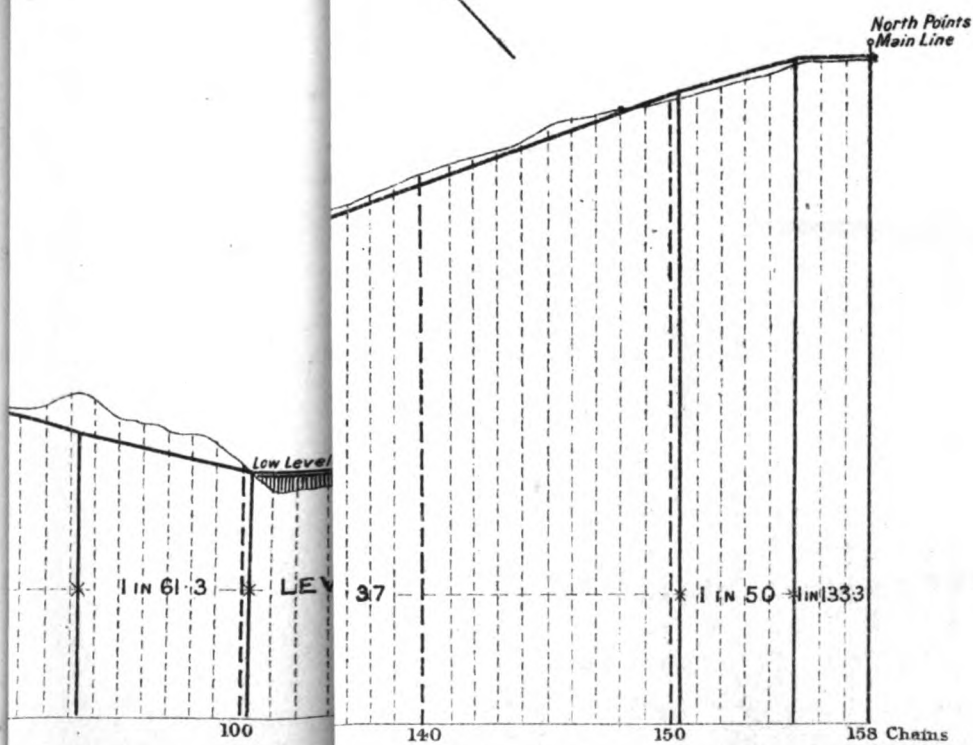
LINE.

ION.

ch.  
ch.



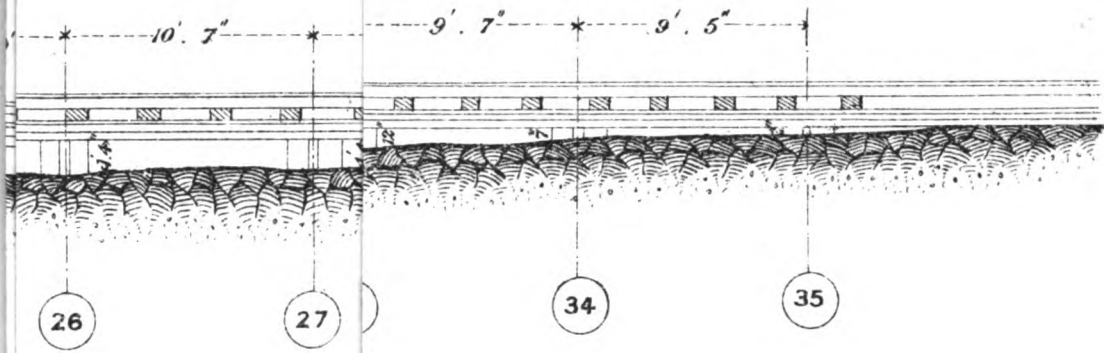
ROONSTAD STATION  
GROUND



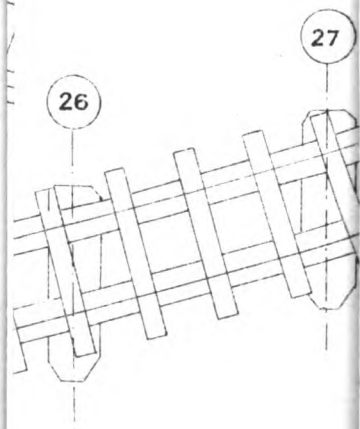
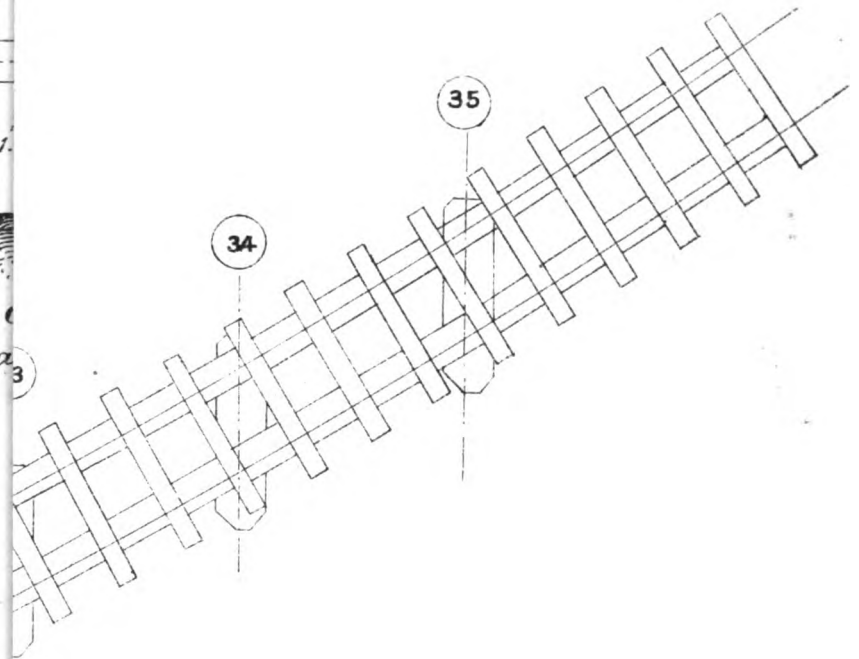




# PLATE 53.



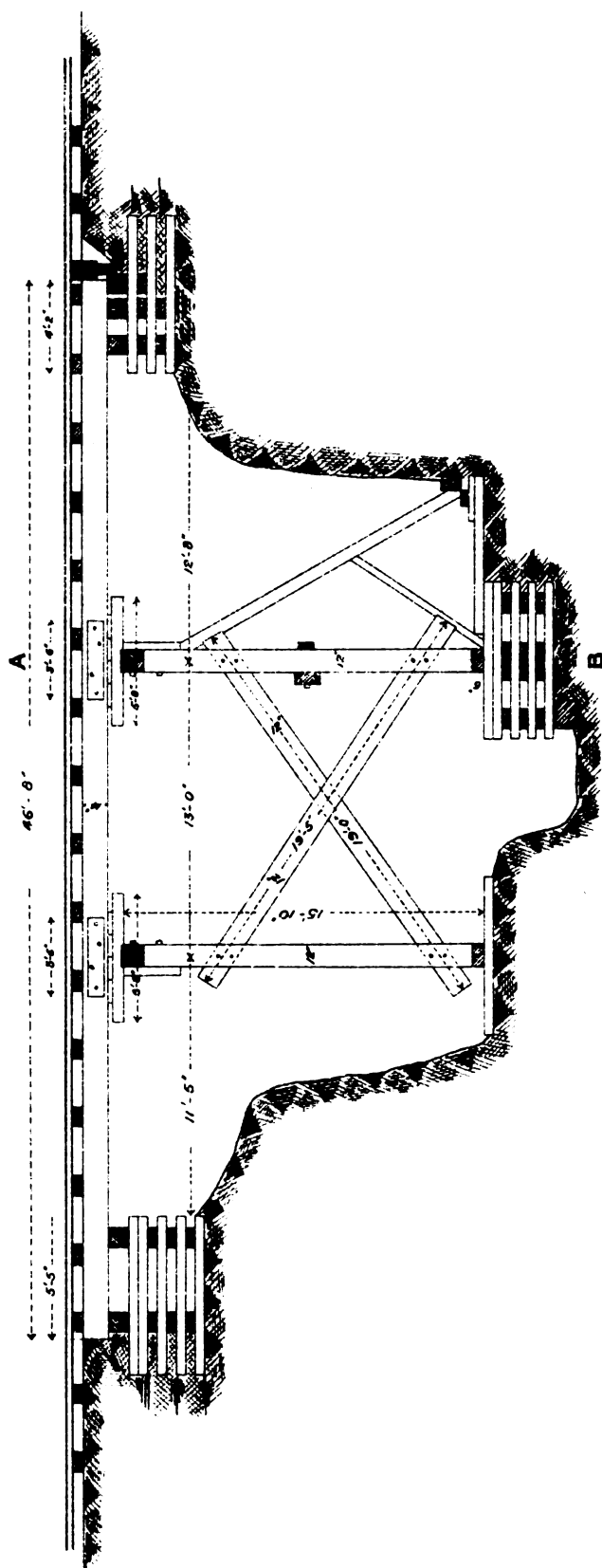
*Spa<sub>3</sub>*





VALSCH R. BRIDGE.  
BLOEMFONTEIN—PRETORIA LINE.  
TRESTLE BRIDGE AT A ON DEVIATION.

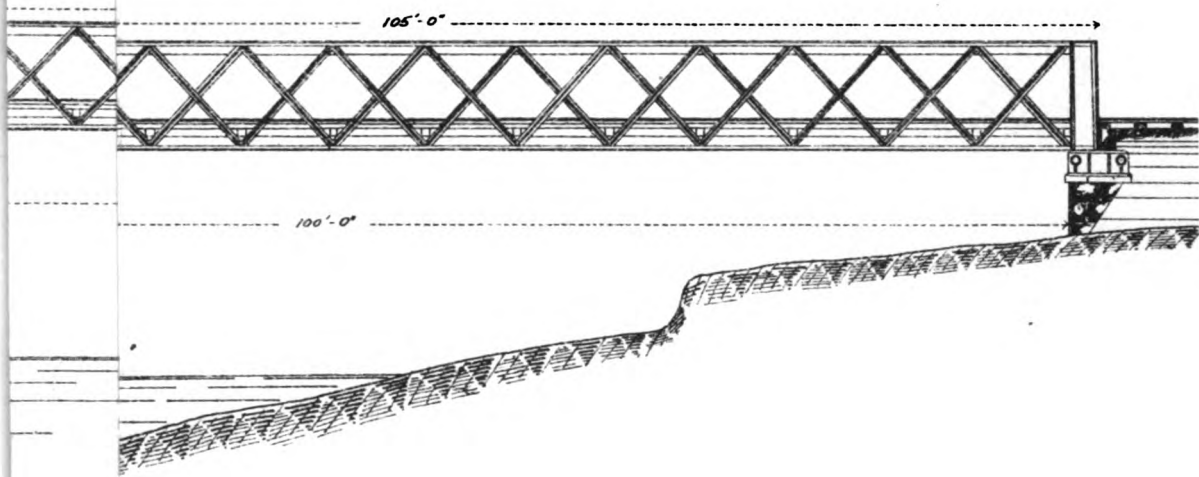
*Scale—8 Feet=1 Inch.*



### SIDE ELEVATION OF BENT A.B.



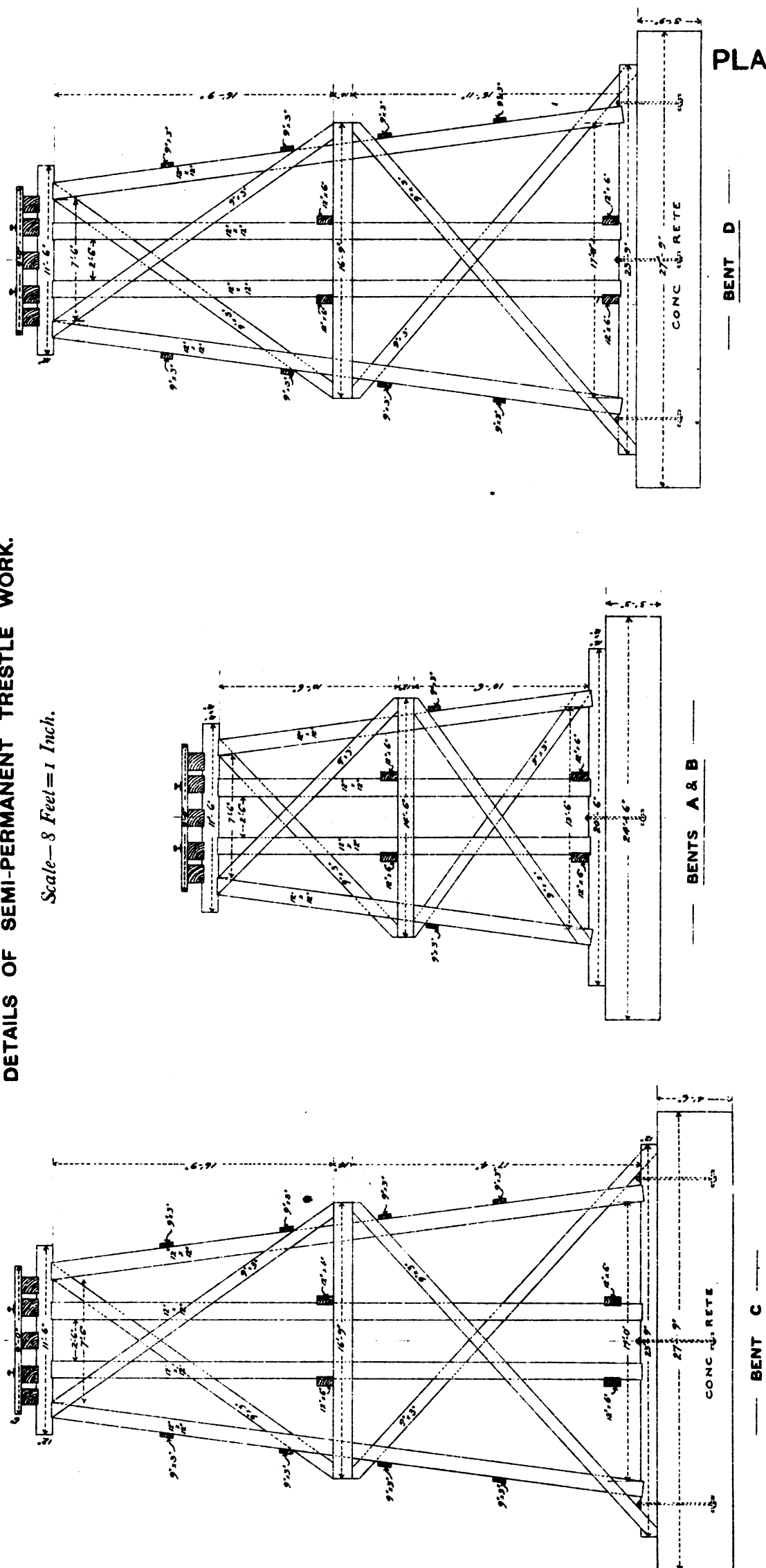
ECONST





**VALSCH R. BRIDGE.**  
**BLOEMFONTEIN-PRETORIA LINE.**  
**DETAILS OF SEMI-PERMANENT TRESTLE WORK.**

*Scale—8 Feet=1 Inch.*





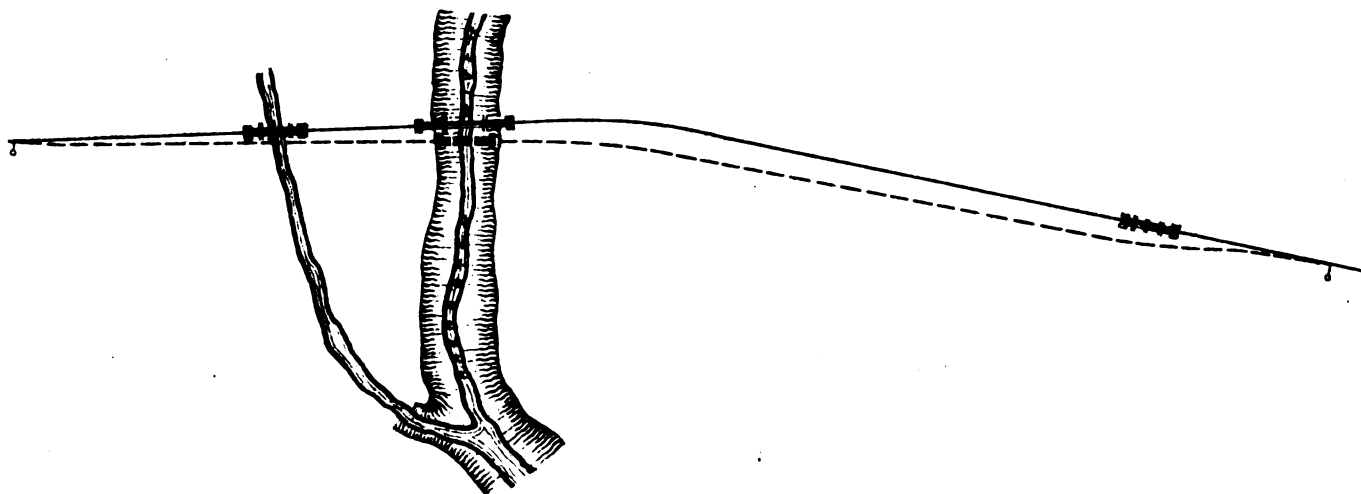


# RHENOSTER R. BRIDGE BLOEMFONTEIN-PRETORIA LINE

## PLAN & SECTION OF DEVIATION.

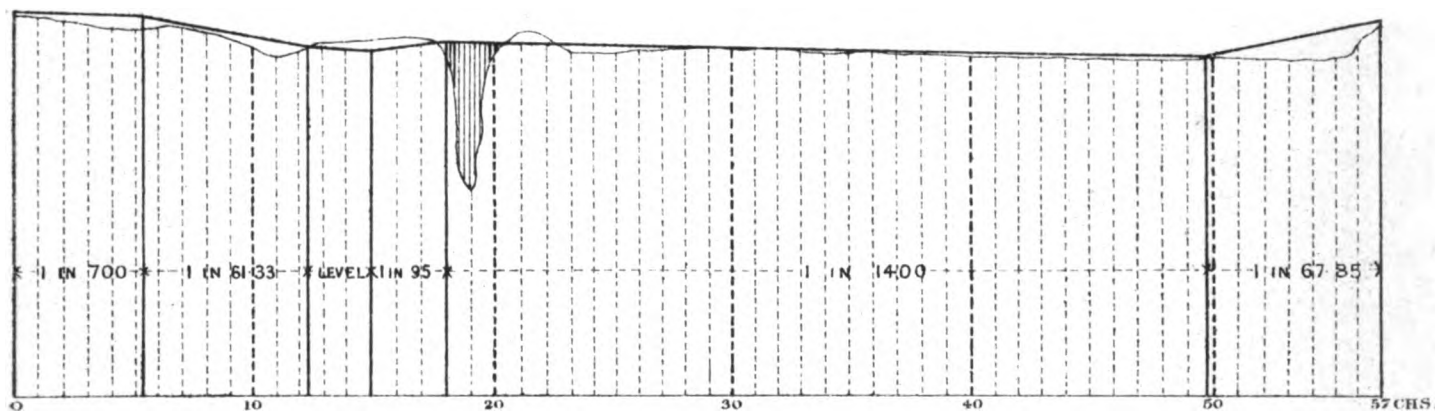
*Horizontal Scale— 8 Chains = 1 Inch*

*Vertical Scale — 40 Feet = 1 Inch*



*Length of Deviation — 57 Chains.  
Maximum Gradient — 1 in 61.33.*

*Officer in Charge* *Lieut. H.A. Micklethwait, D.S.O. R.E.*  
*Working Party.* *{ 5 Officers 150 Non-Commissioned Officers & Men. R.E.*  
*55 Infantry details.*  
*600 Natives.*  
*Time taken for Bridge & Deviation 5 days 12½ hours*





*Officer in Charge : Lieut. H. A.*

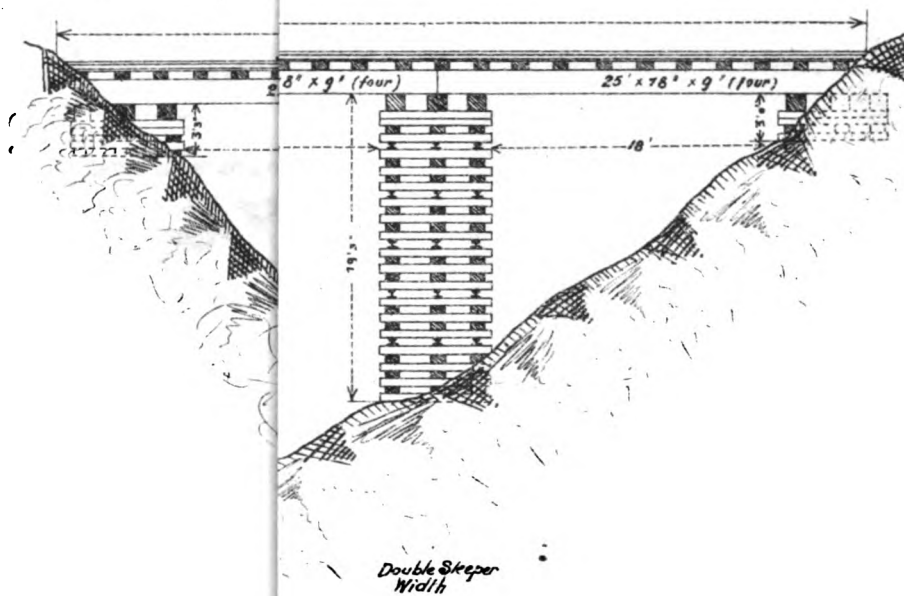
*Working Party : 5 Officers,*

*55 Infantry*

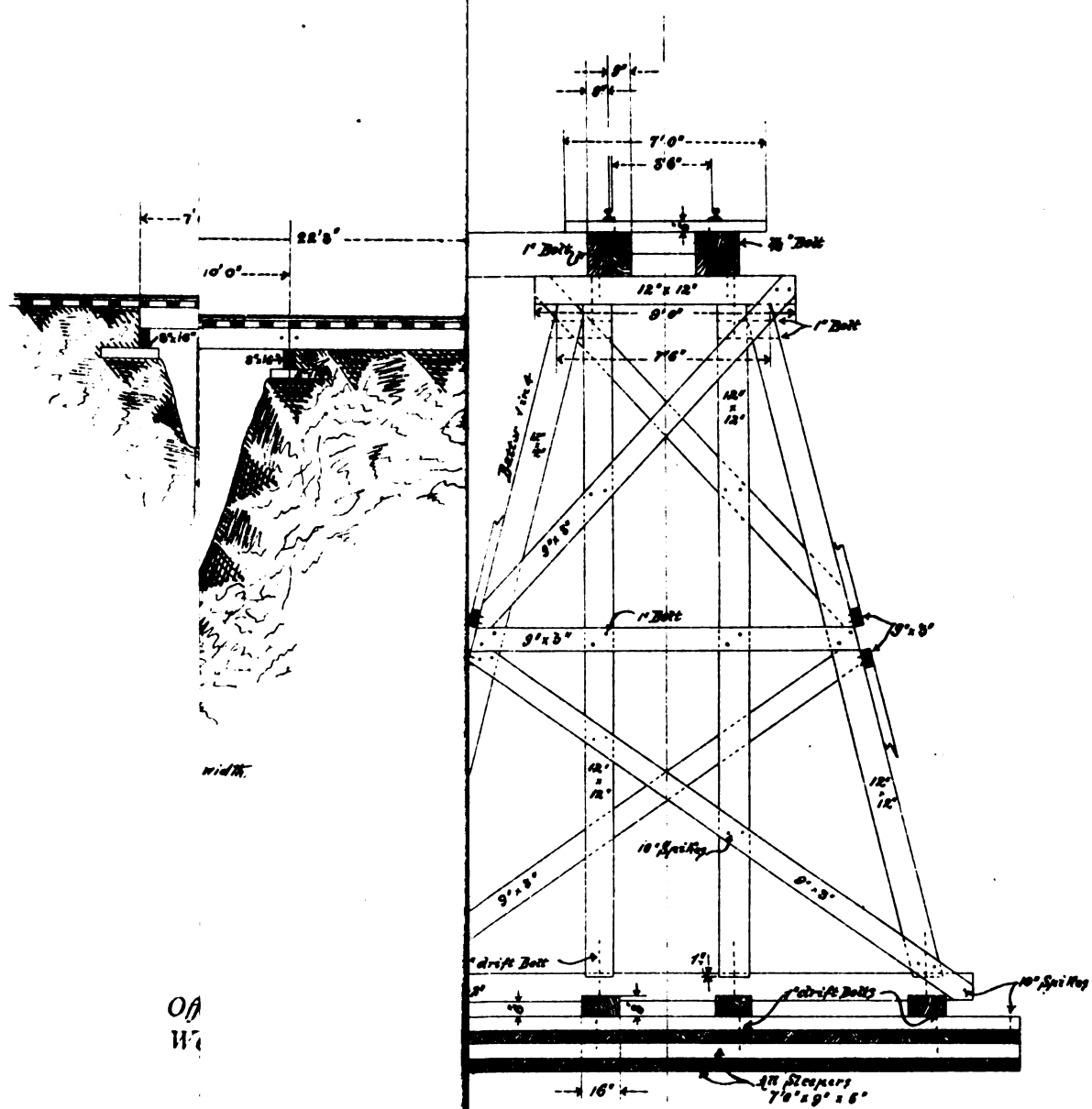
*600 Native*

*Time taken for Bridge and De*

*This Bridge was destroyed by  
by a Trestle Bridge.*







Off  
W  
  
Tin

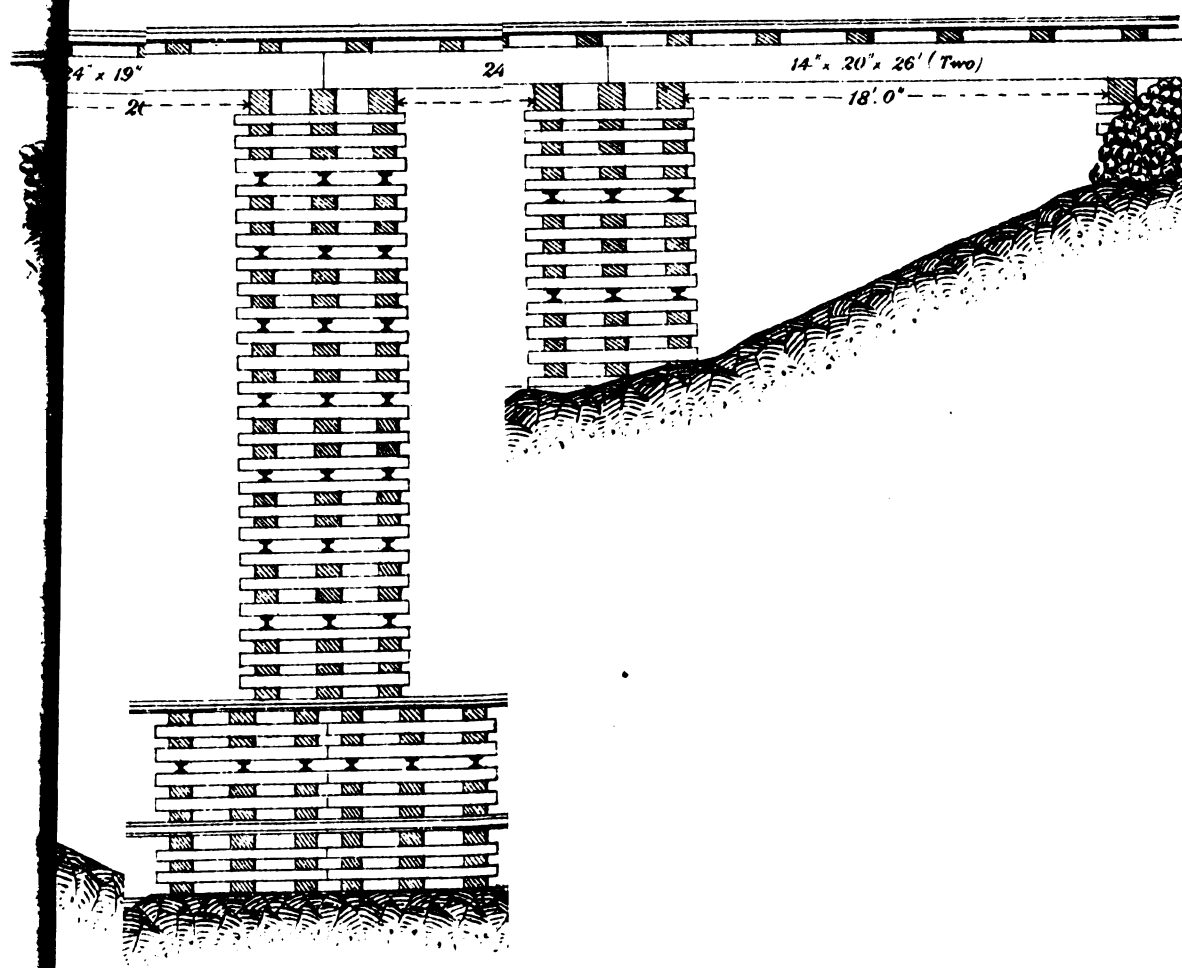


RID

LIN

Of  
WATIO

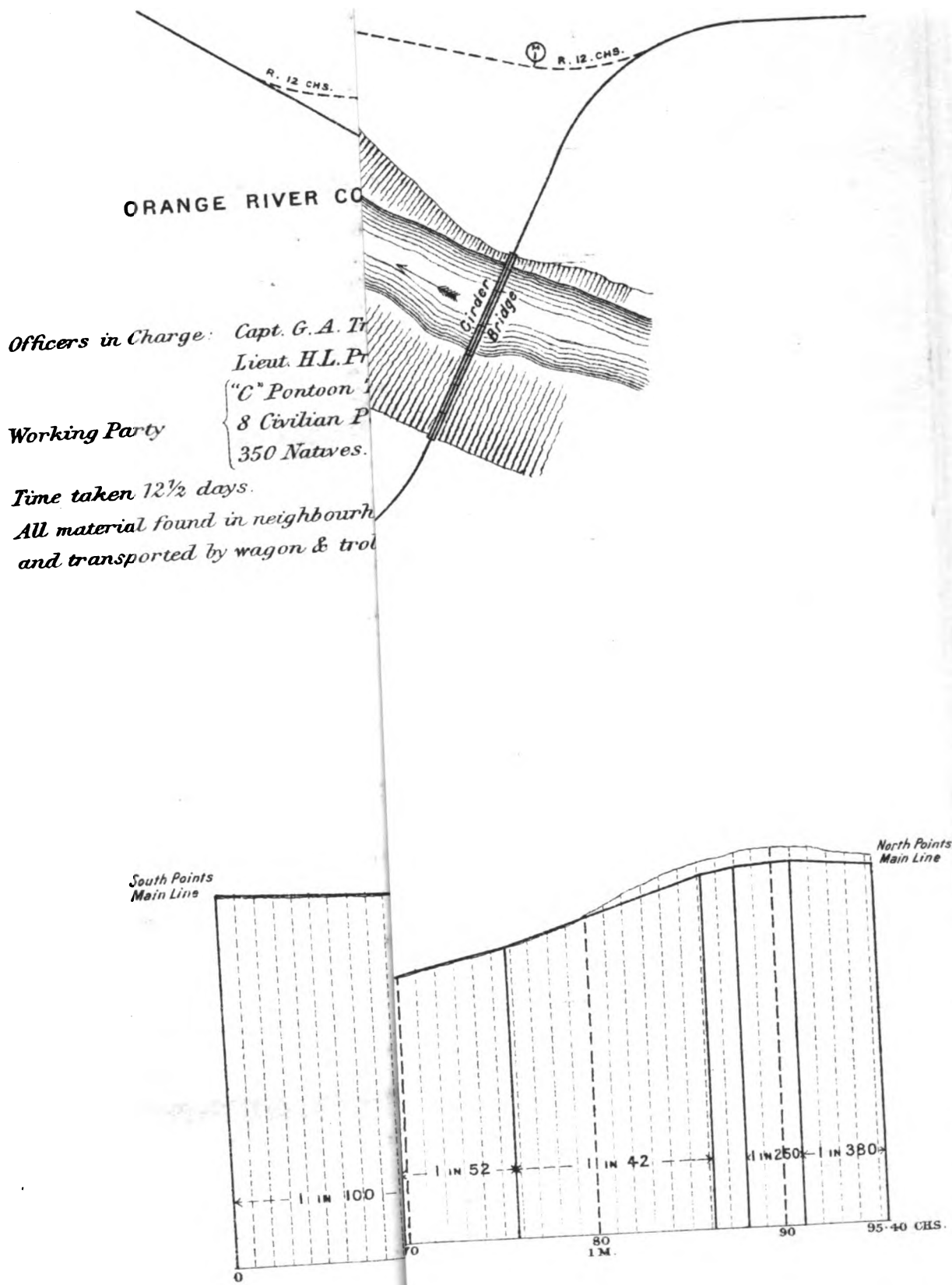
PL





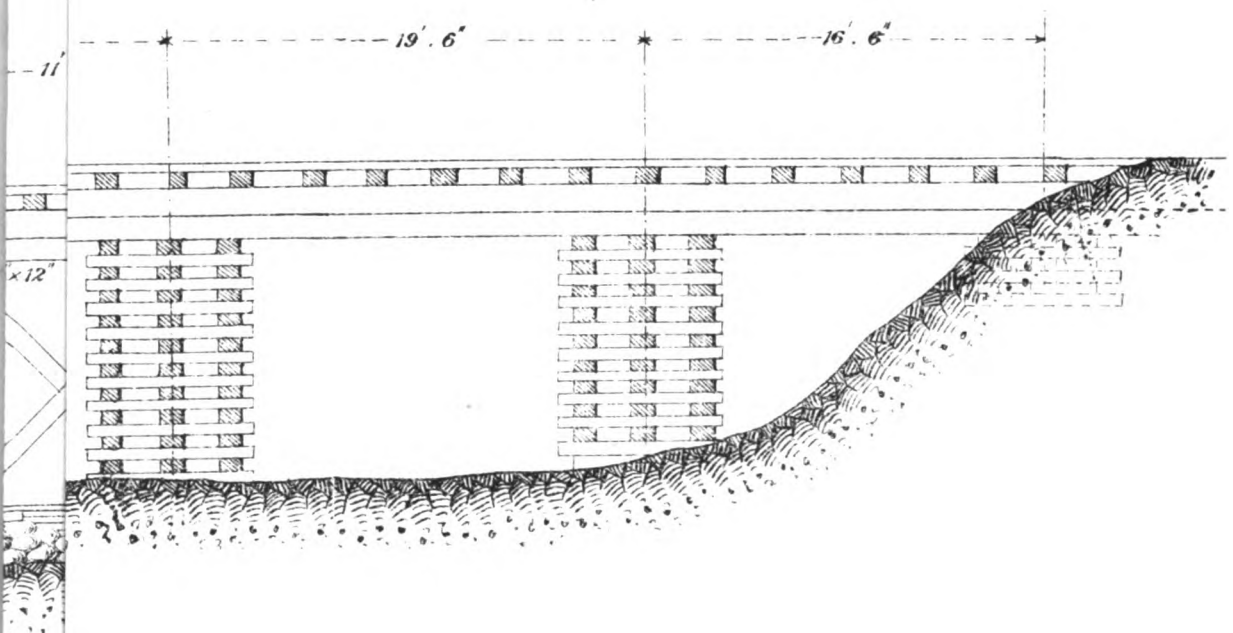
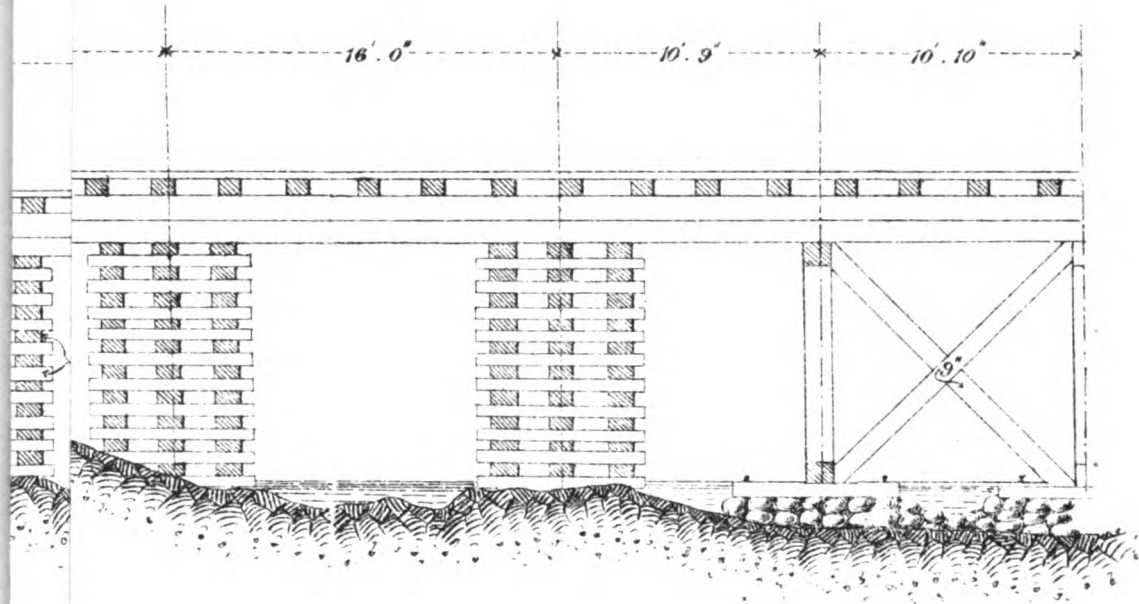


TRANSVAAL.





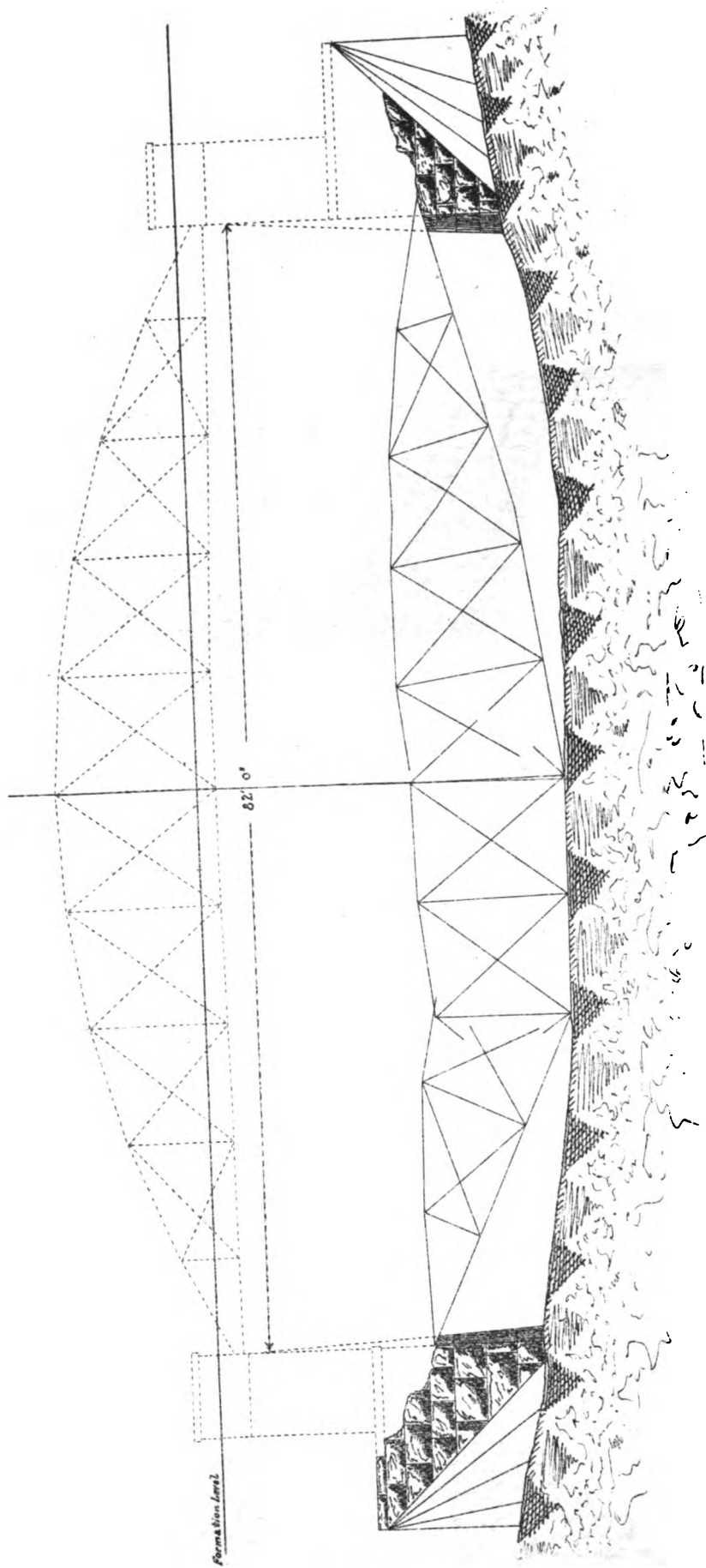
# PLATE 62.





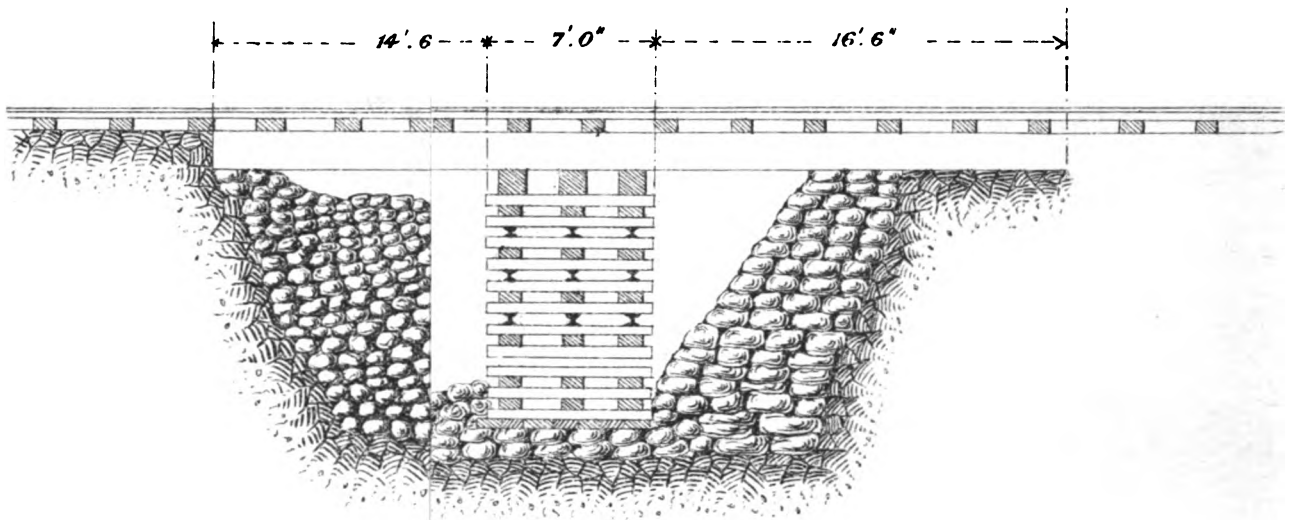
HENNOPS R. BRIDGE, IRENE.  
BLOEMFONTEIN—PRETORIA LINE.

Scale—12 Feet=1 Inch.



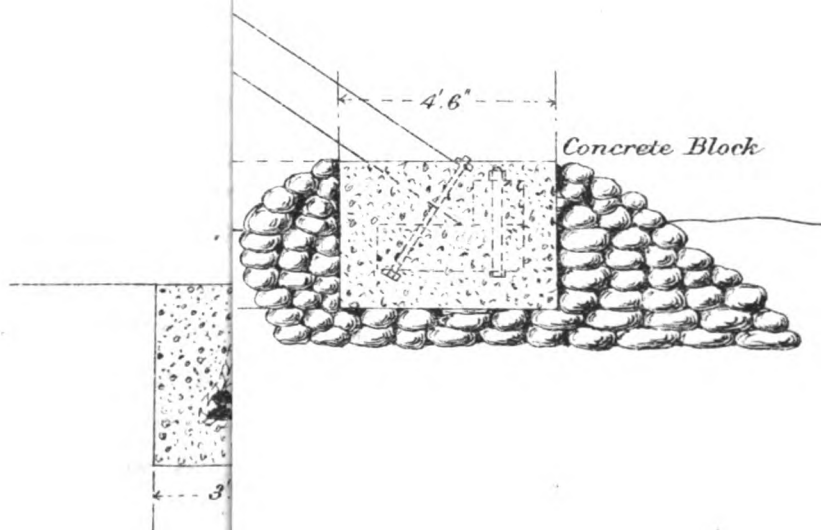
— BRIDGE AS LEFT BY THE ENEMY —  
— DOTTED PORTION SHOWS ORIGINAL CONDITION —





Office  
Work

cut to downstream  
trestle.



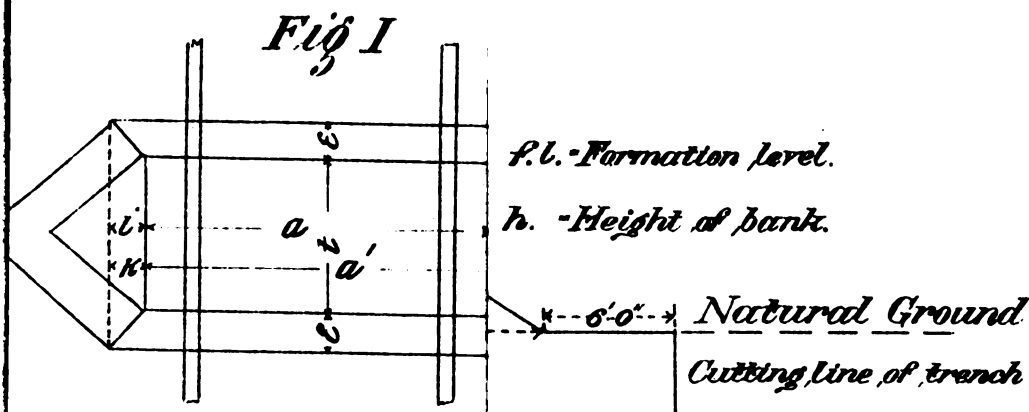




## PIER LINE

*ridge repairs.*

MASCK IN BANK



### DIMENSIONS PER CRIB PIERS

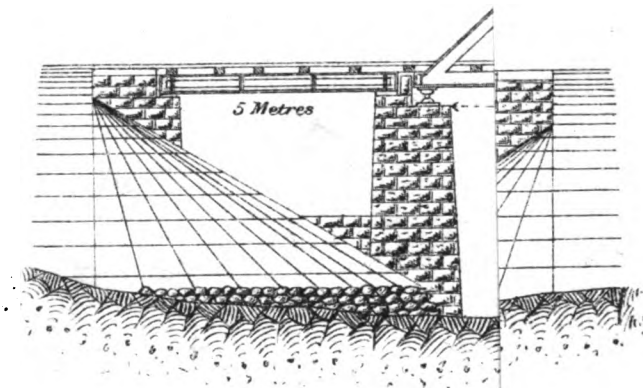
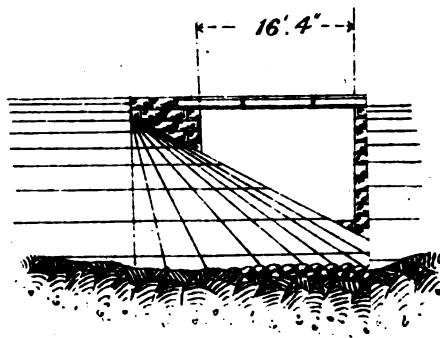
S	L	t	E
9'	30	3'-0"	3"
20'	45	3'-3"	
30'	65	4'-3"	
50'	115	5'-3"	
75'	180	5'-6"	

8'-0" width of pier - single crib.  
 18'-0" " " - double "  
 30'-0" " " - treble "  
 permissible height, 50'-0"

REFD		NB OF BAULKS
0'	4 of 16'x8' or 2 of 14'x14' or 2 of 18'x9'	
0'	4 of 18'x9'	
0'	4 of 18'x9' or 6 of 16'x8'	
0'	2 of 18'x8'	
0'	6 of 18'x9'	

S - Clear Span in feet  
 L - Maximum load (live)  
 t - Thickness of top of pier  
 E - Offset in thickness on  
 points 5, 10, 20, & 30 ft.  
 C - Length of top of pier  
 D - Offset at each end of  
 D' - respectively below F  
 t - do do 20, 25, &  
 t' - Length of pier plus  
 y -  
 R.L.

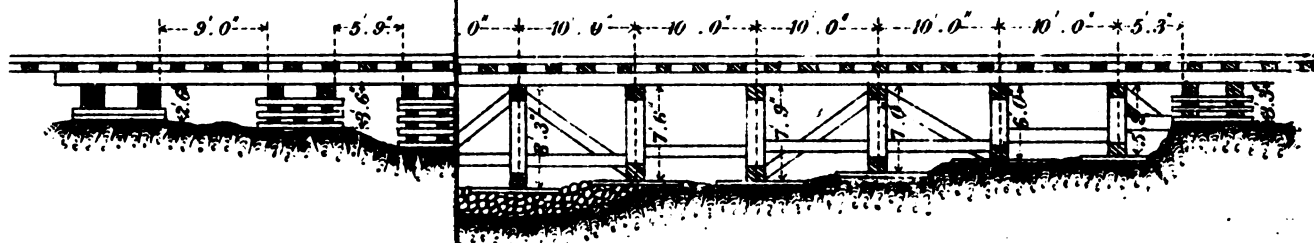




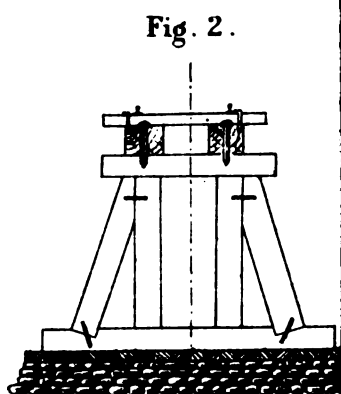
RE

*Officer in Charge:* Lieut. G. R. Frith, R.E.  
*Working Party:* 8th (Railway) Company  
 Civilian masons and  
*Time taken* 51 days.

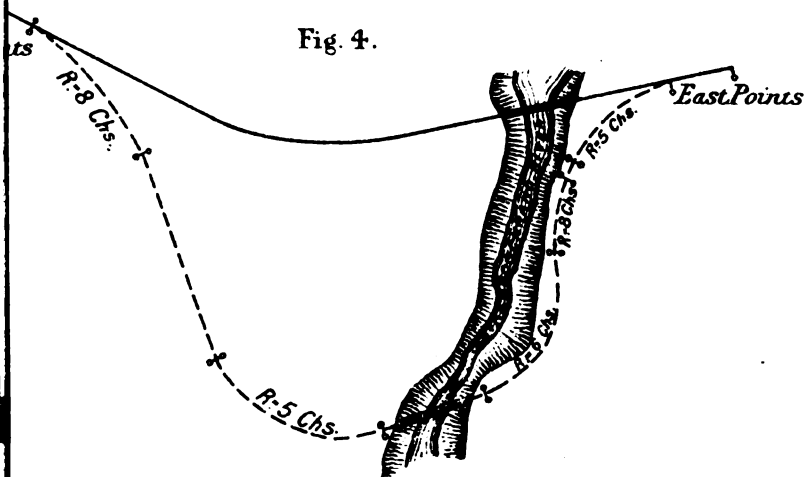




*Length of Devia  
Maximum Grad  
Minimum Curv*

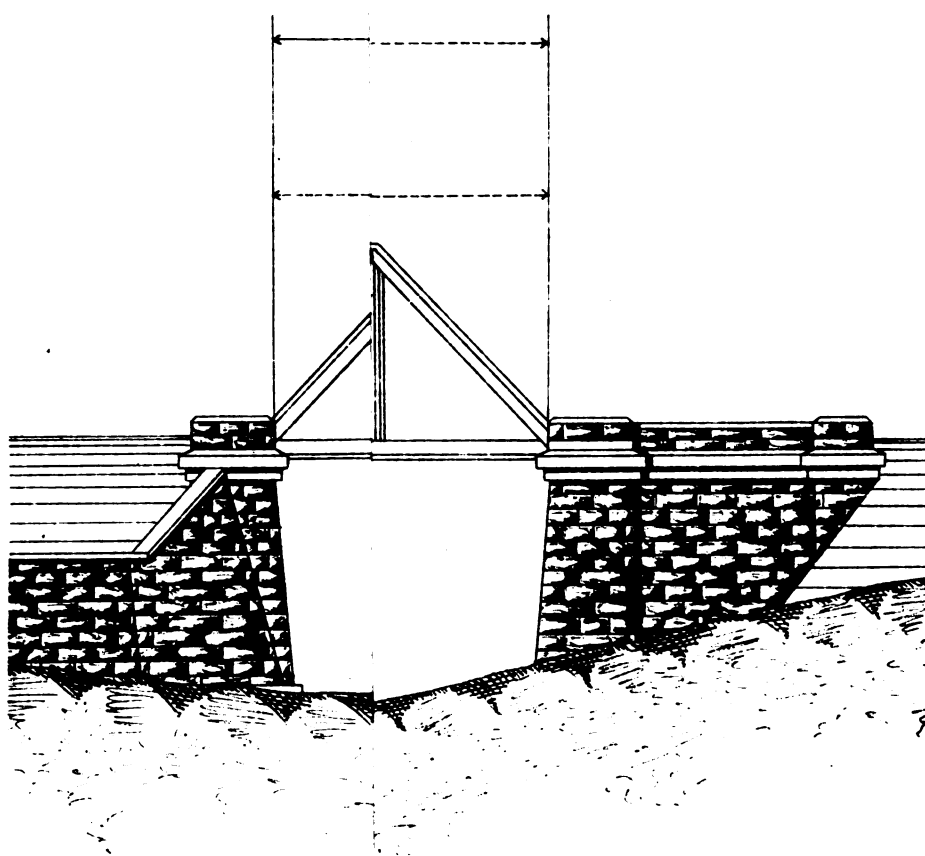


**ELEVATION OF TREEST**  
*Scale 8 Feet - 1 Inch*



**PLAN OF DEVIATION.**  
*Scale 8 Chains - 1 Inch*





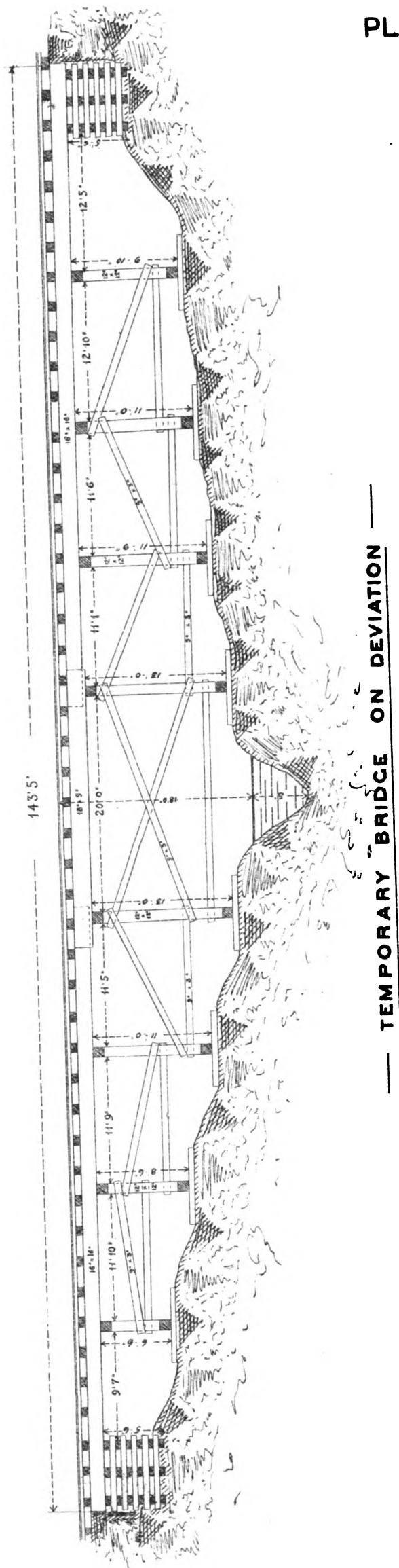
*Officer in Charge :* Lieut. G.  
*Working Party :* 8th (Rail  
Civilian M  
*Time taken :* 4 months.





## BRONKHORST SPRUIT BRIDGE:

Scale—12 Feet=1 Inch.



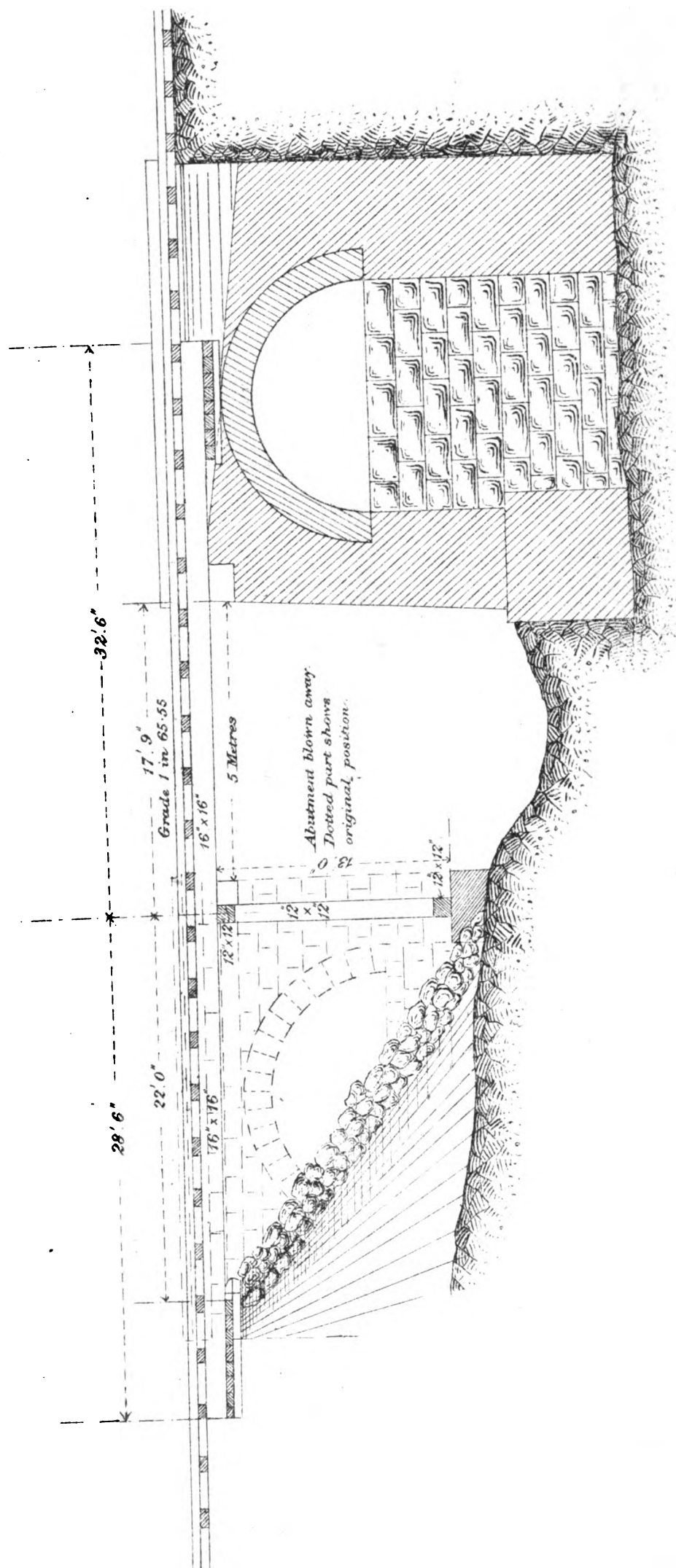
*Officer in Charge : Capt. F. G. Fuller, R.E.*  
*Working Party : 5 Officers, 140 N.C.O.'s and Men R.E.*  
*20 Infantry Platelayers.*  
*500 Natives.*  
*Time taken : 3 days, 18 hours.*



# 5 METRE CULVERT, KILOMÈTRE 401. PRETORIA-DELAGOA BAY LINE.

TEMPORARY REPAIR.

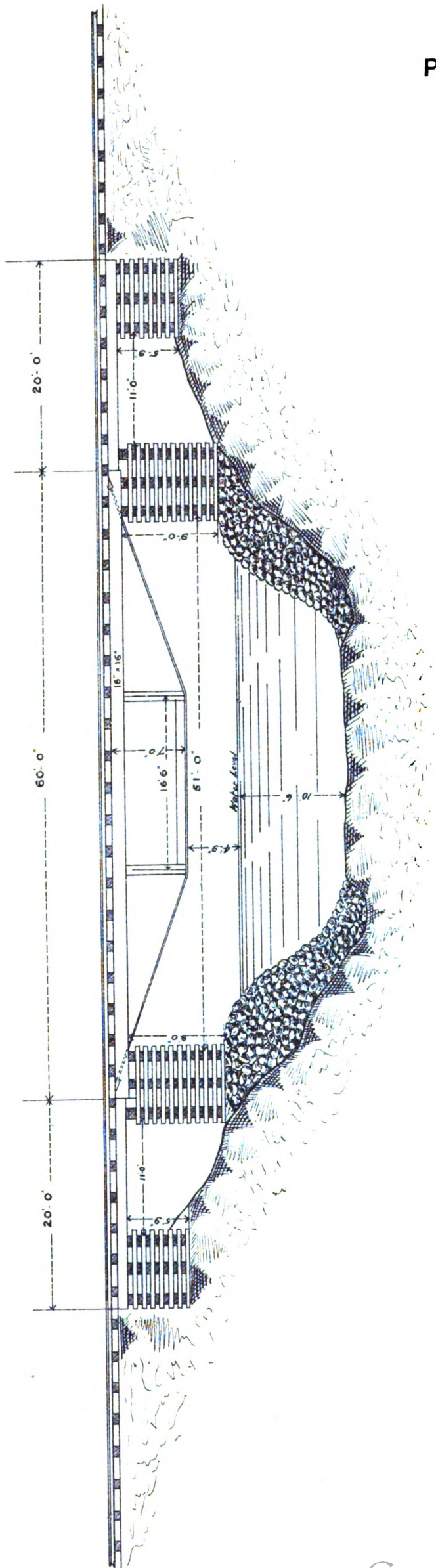
Scale, 8 Feet = 1 Inch.





**WILGE R. BRIDGE.**  
**PRETORIA-DELAGOA BAY LINE.**  
**BRIDGE, WITH SPAN OF FOUR TRUSSED BEAMS, ON DEVIATION.**

*Scale—12 Feet=1 Inch.*



*Officer in Charge: Capt. F. G. Fuller, R.E.*  
*Working Party: 5 Officers, 140 N.C.O.'s and Men R.E.*  
*20 Infantry Platelayers.*  
*500 Natives.*  
*Time taken: 4 days, 17½ hours.*

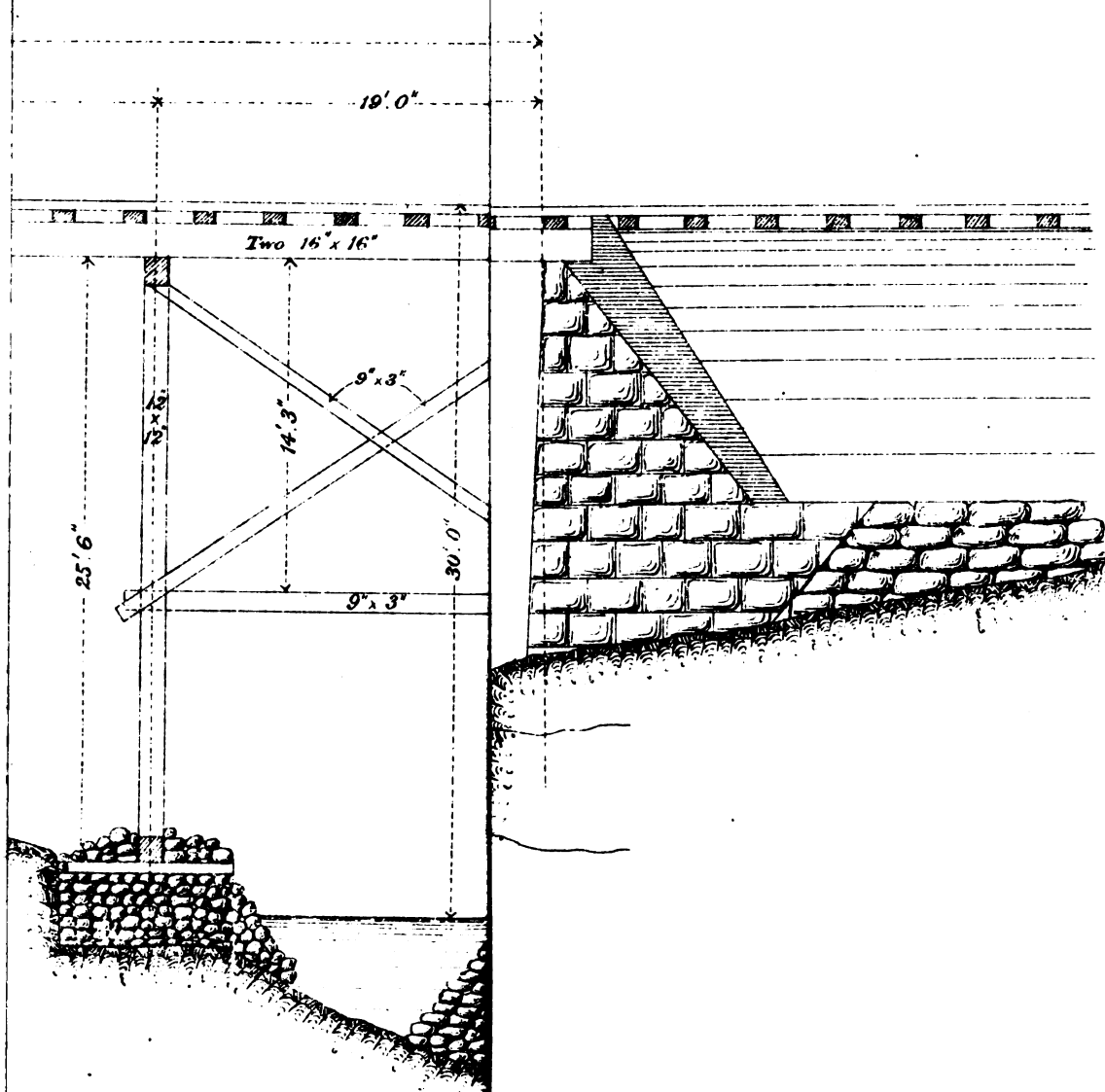


E.

# PLATE 72.

LINE .

*Considerable Work was need*



*Foundations of*





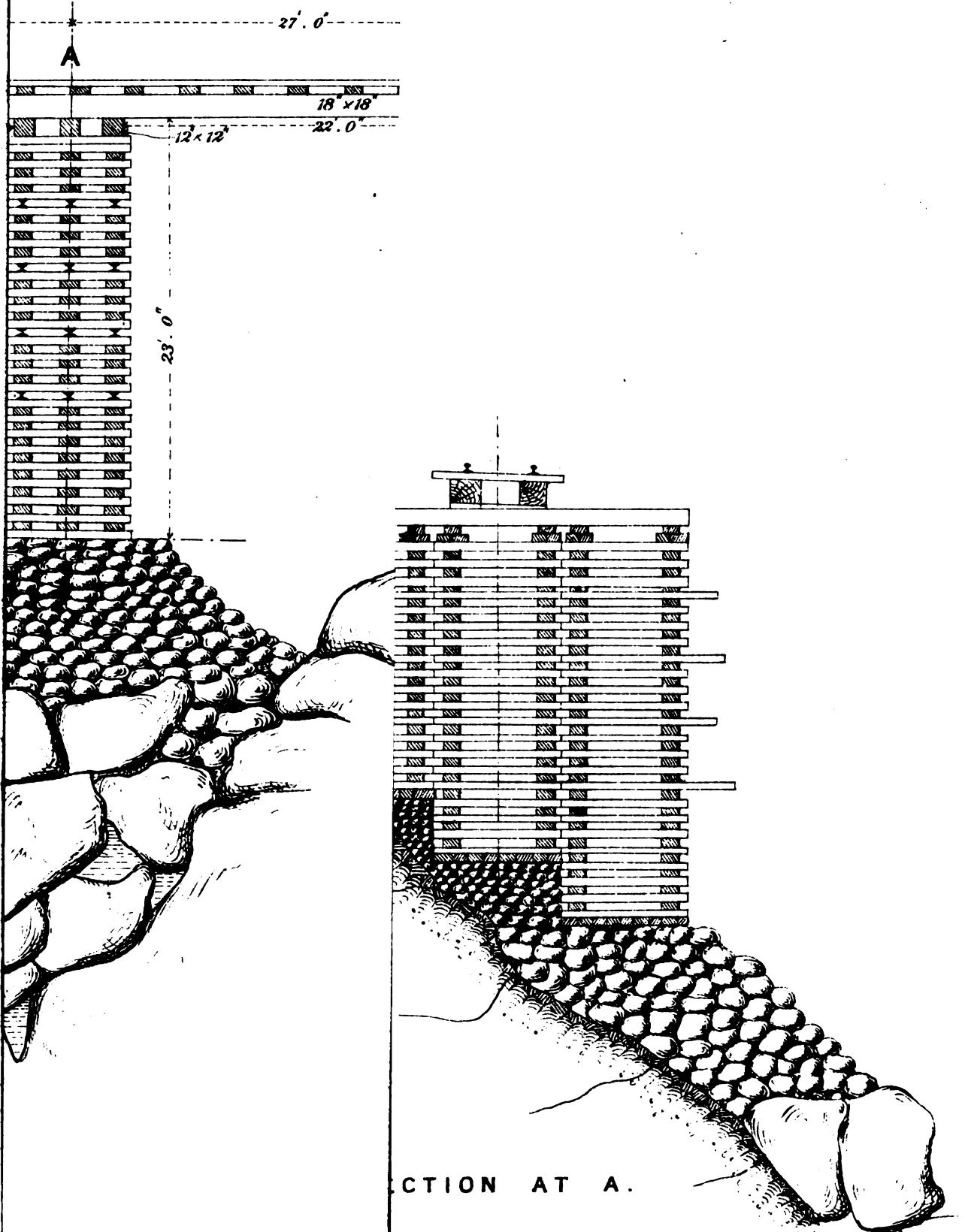
PORT BRIDGE.

PLATE 73.

COAST BAY LINE.

BRIDGE.

*= 1 Inch*



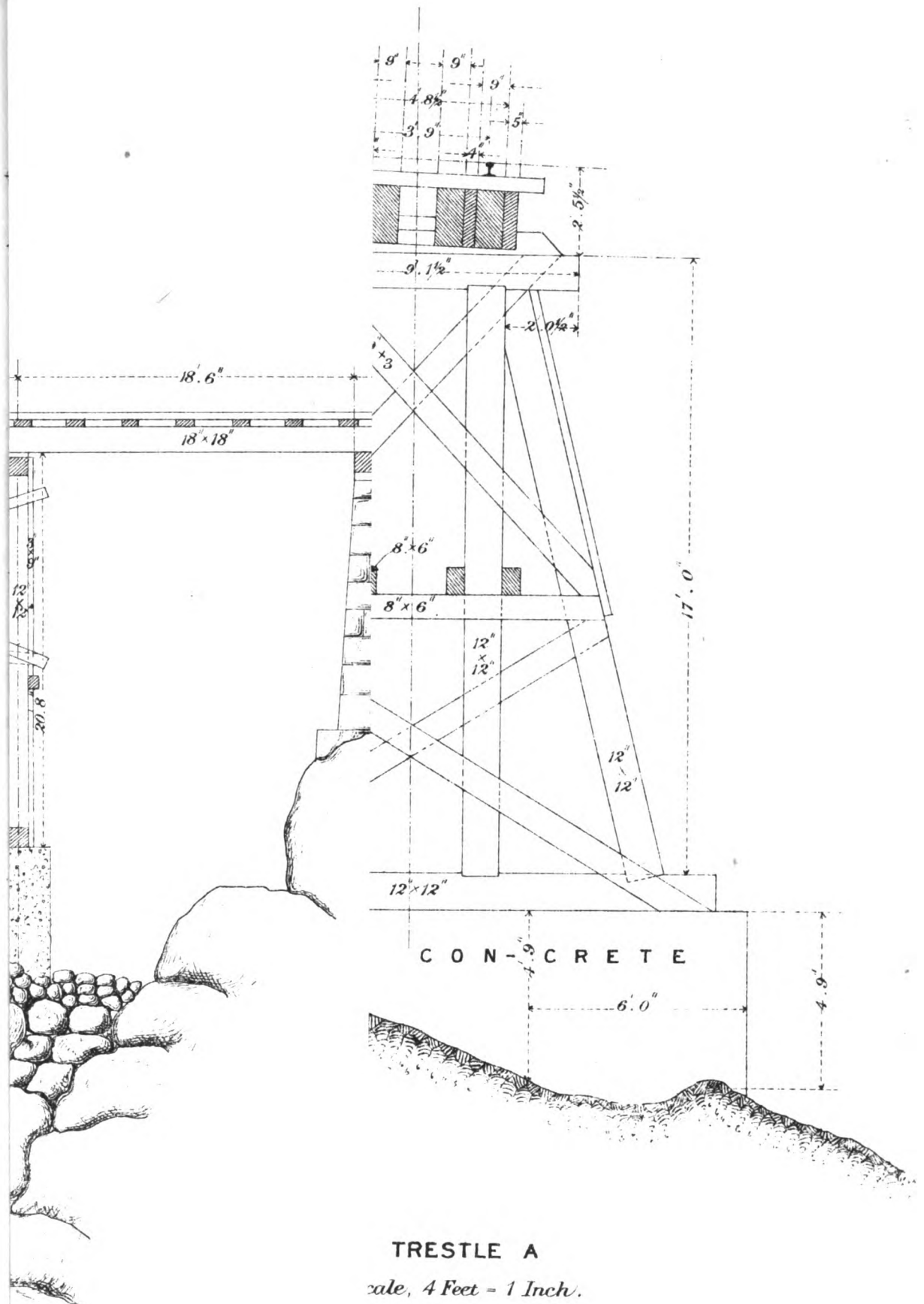
SECTION AT A.



GE.

PLATE 74.

NE.



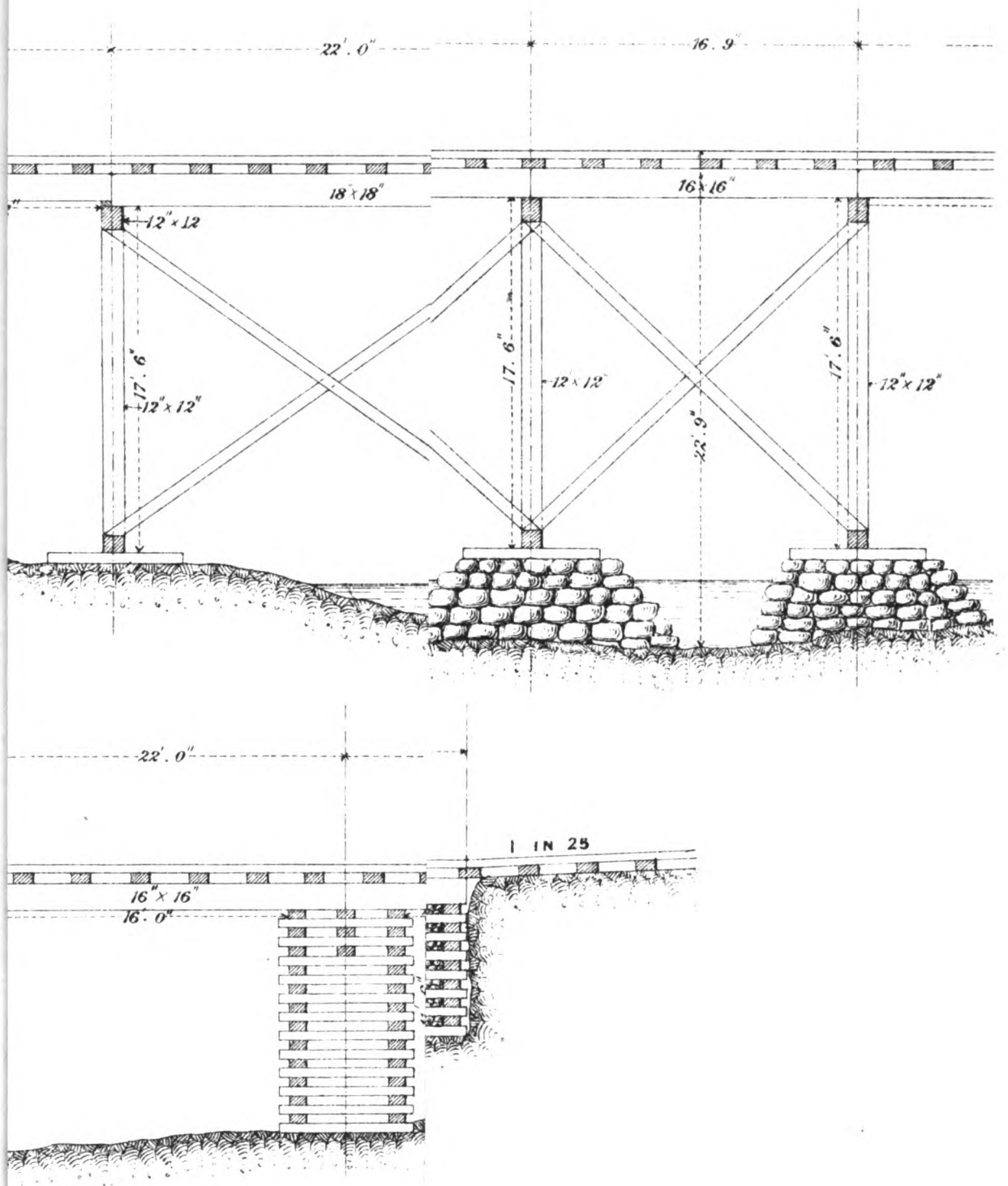


APMUIDEN.

PLATE 75.

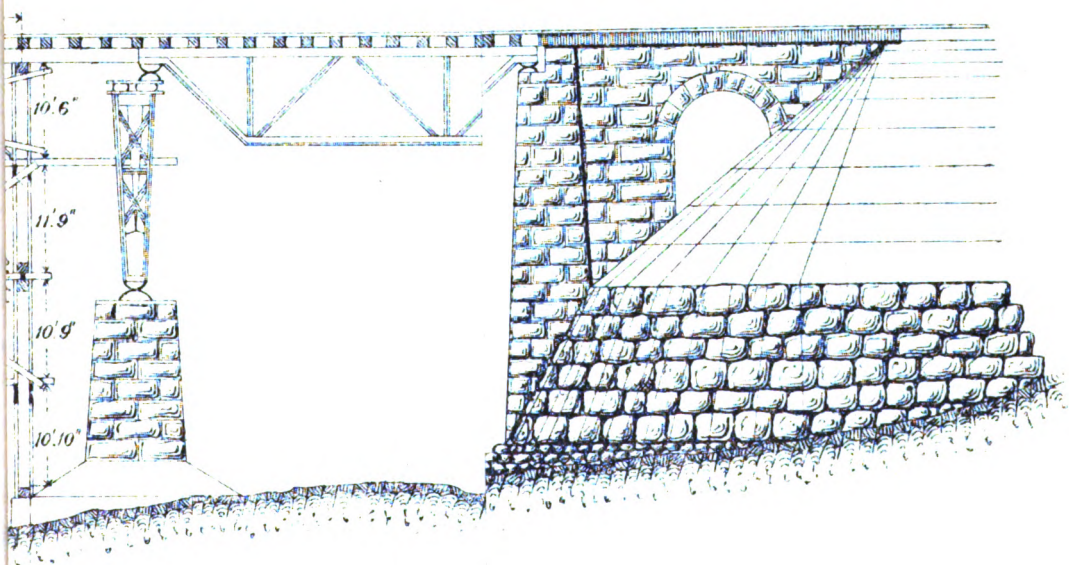
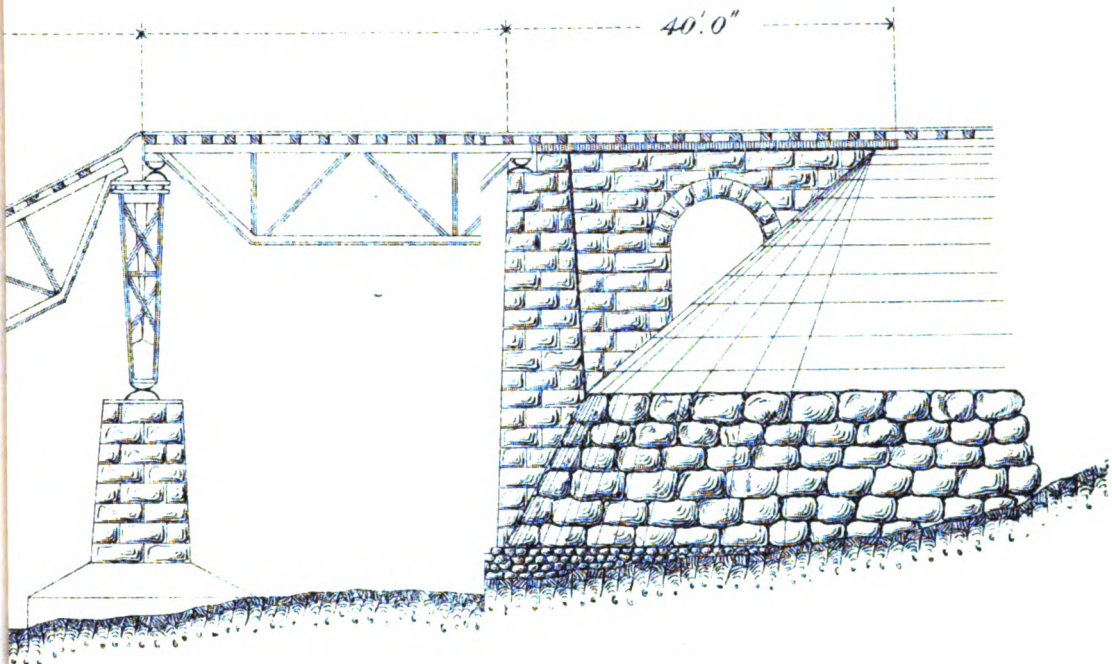
BAY LINE.

ATION.



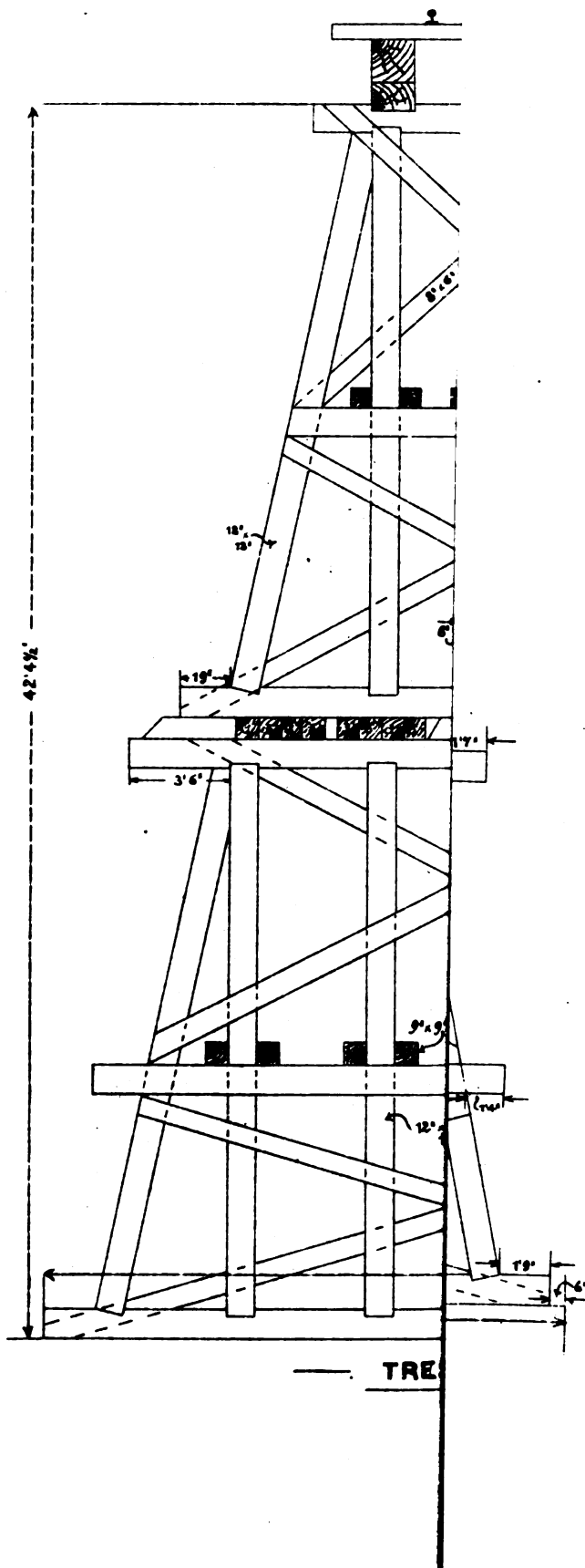


IR .



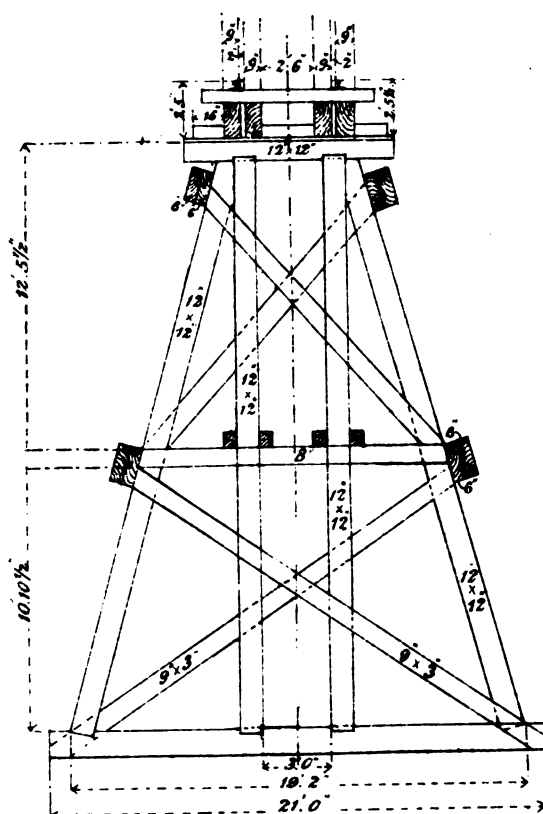
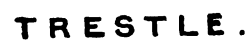
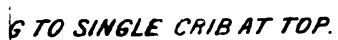








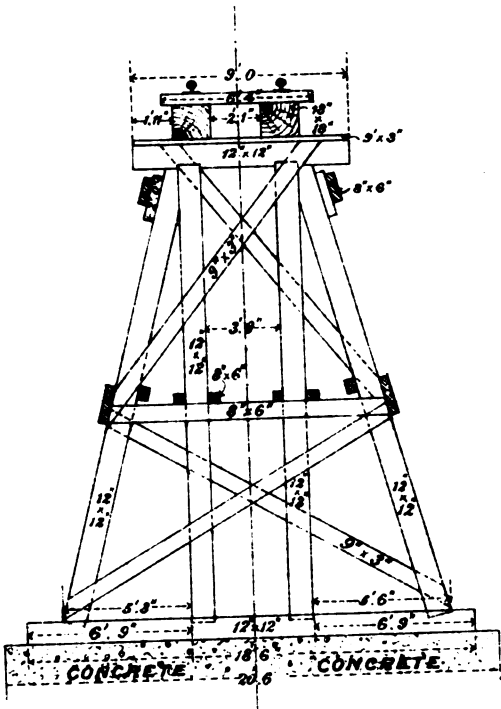
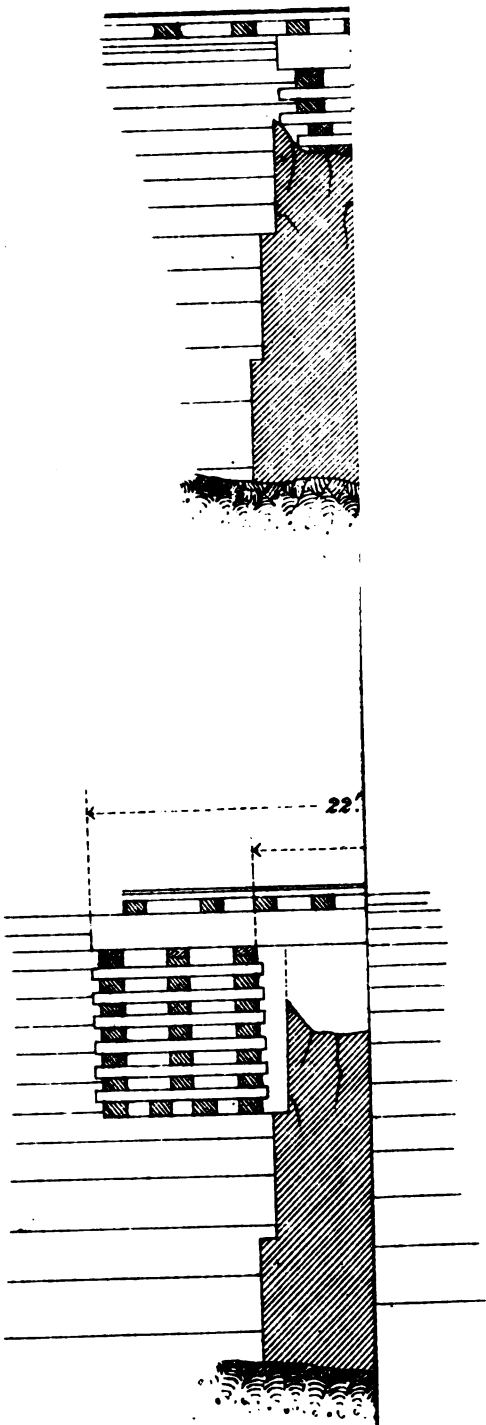
**PLATE 78.**





*Temporary bridge*

*Semi-permanent*



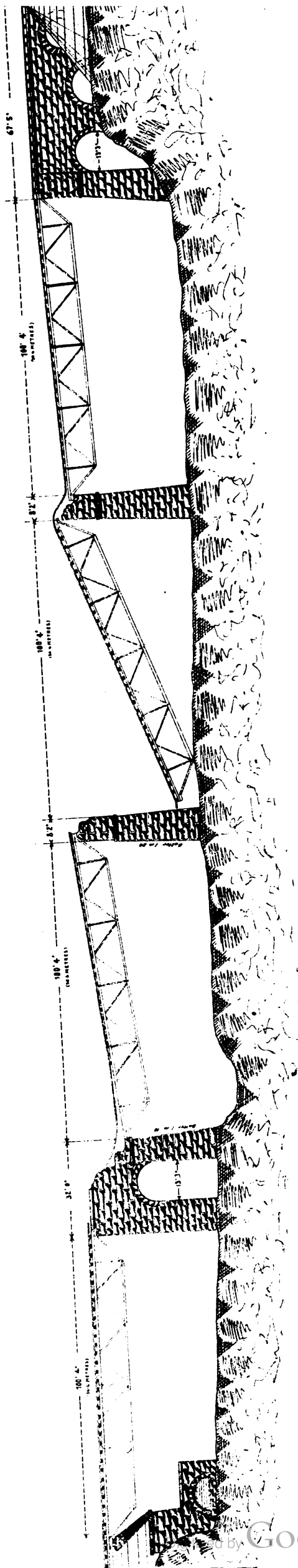
TRESTLE.



# DAMAGED BRIDGE.

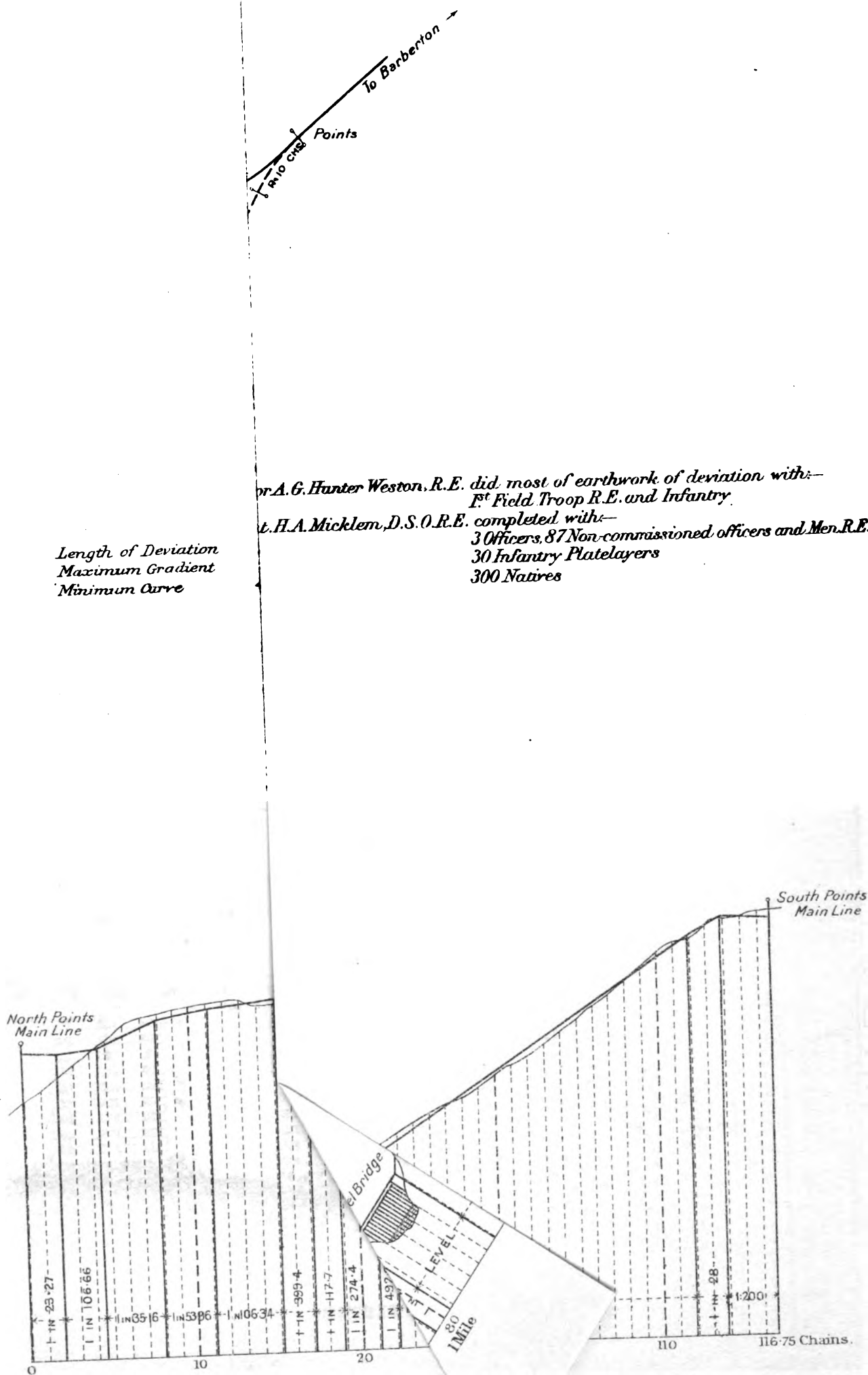
**Scale—40 Feet = 1 Inch.**

Google



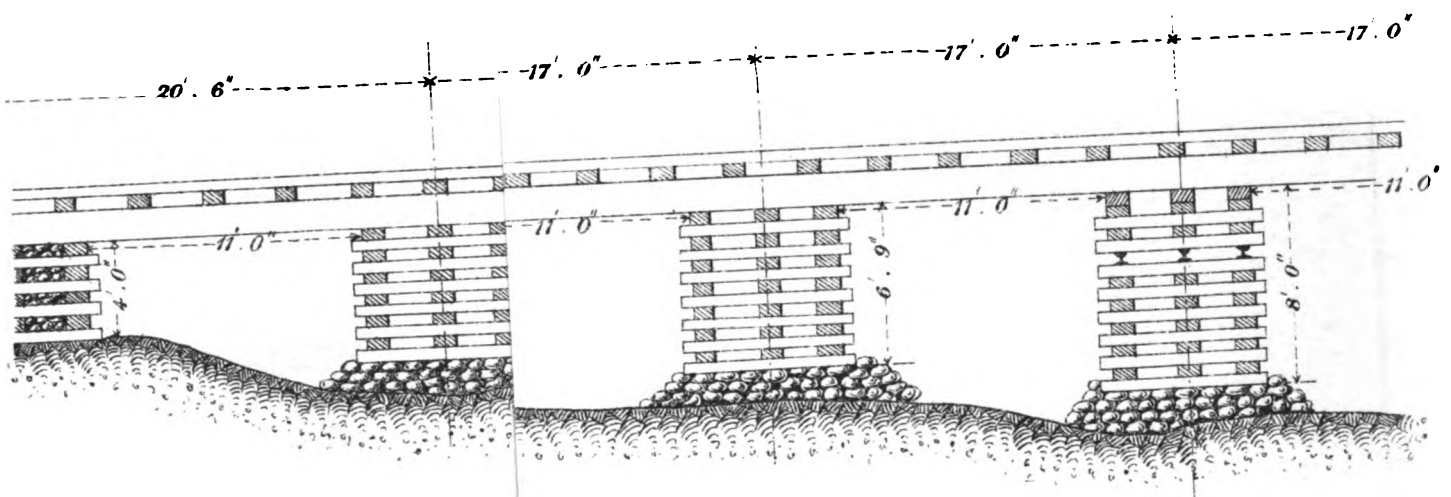




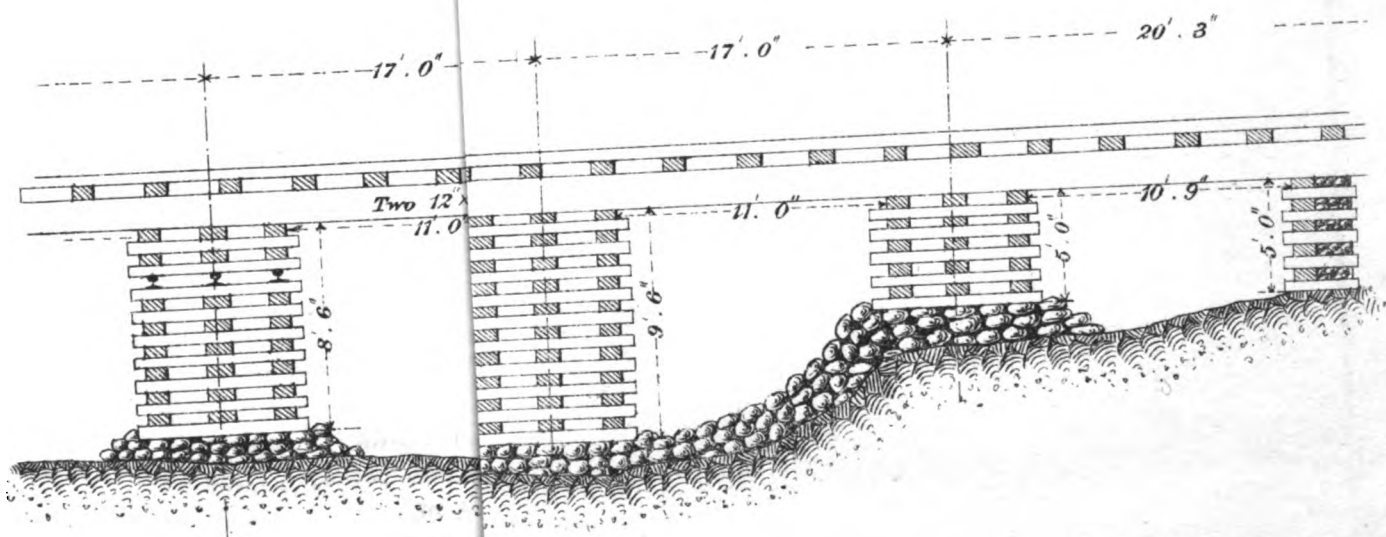




*Major A. G. Hurder-West*  
*carried out*  
*Lieut H. A. Micklem D.S.*  
*with 3 Officers, 87.*  
*30 Infantry platelay*  
*300 natives.*

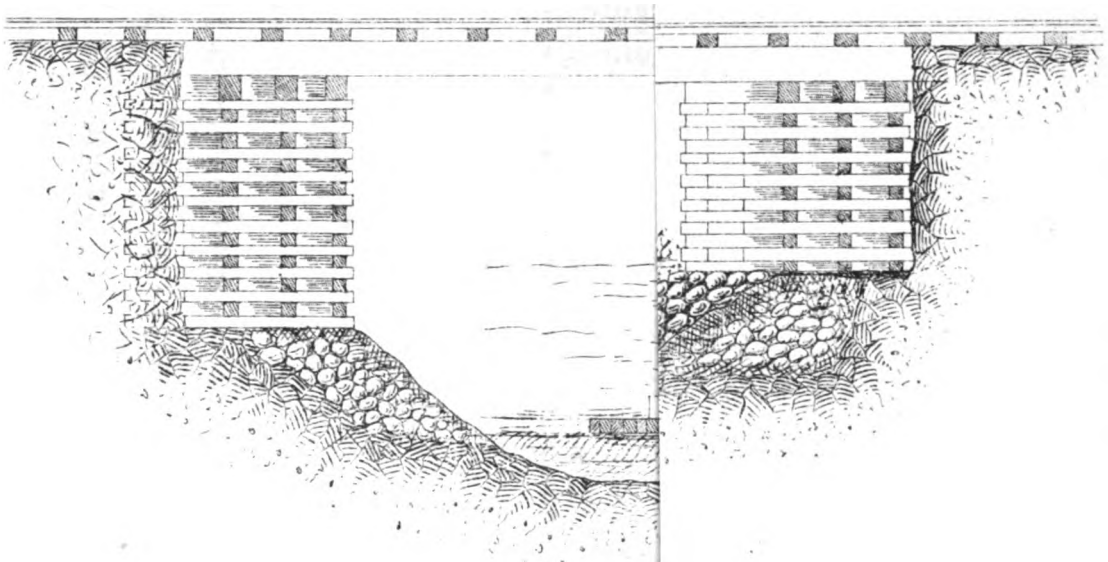
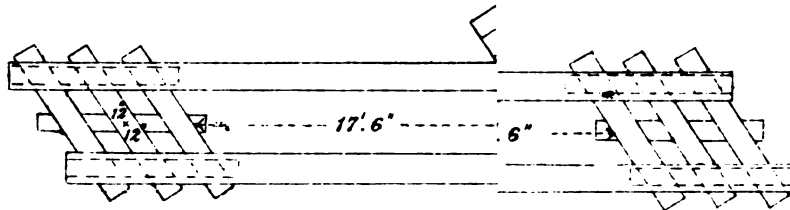


S.



SINGLE WIDTH CRIBS.





*Officer in Charge: Capt. F. G. Fuller, R.E.*

*Working Party: 60 R.E.*

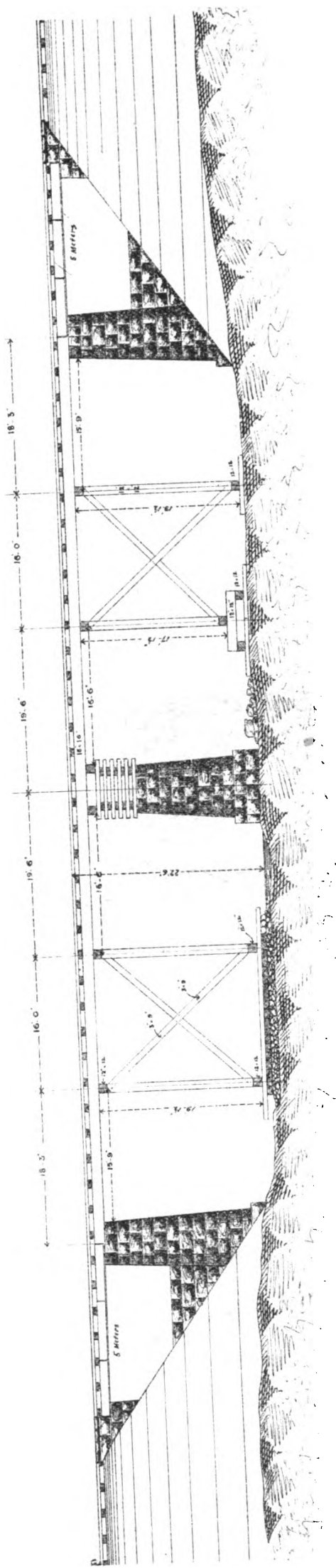
*30 Infantry details.*

*300 Natives.*

*Time taken for bridge and 1 mile of deviation*



**BANK BRIDGE.**  
**ELANDSFONTEIN—KLERKSDORP LINE.**  
**SEMI-PERMANENT BRIDGE.**  
*Scale—16 Feet=1 Inch.*

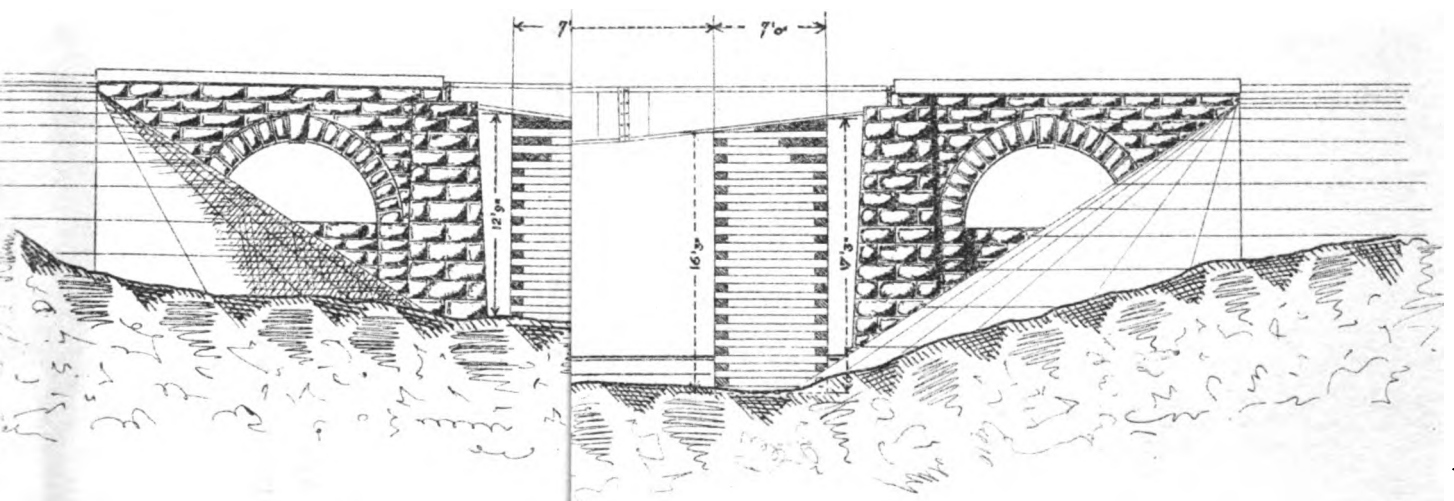
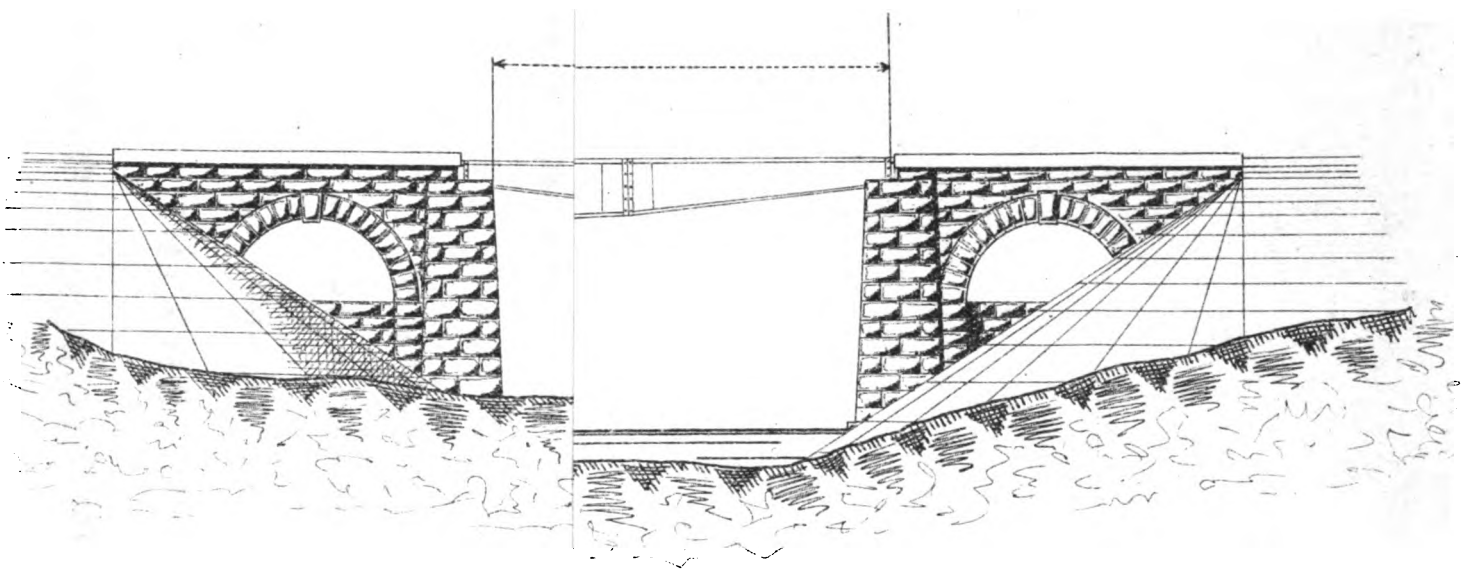


*Officer in Charge : Lieut. A. G. T. Cusins, R.E.*  
*Working Party : 17 R.E.*  
*74 Natives.*  
*Time taken : 6 days.*





*Officer in Charge : Lieut. Verco*  
*Working Party : 11 Men R.P*  
*130 Natives.*  
*Time taken : 6 days.*





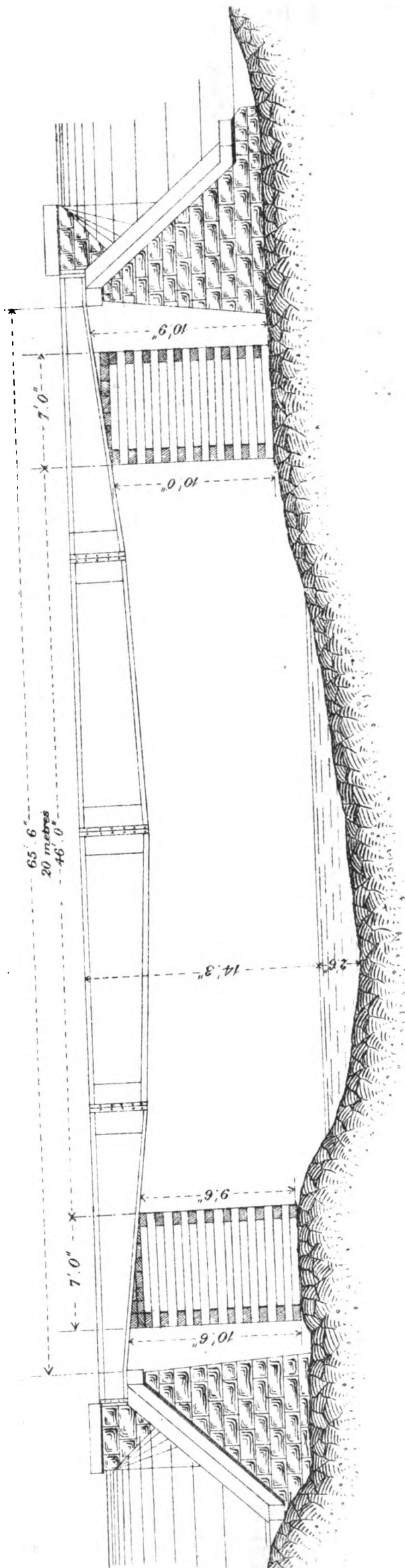
BRIDGE AT KILOMETRE 204½  
ELANDSFONTEIN-KLERKSDORP LINE.

Officer in charge : Lieut. Vercoe, R.P.R.  
Working Party : 11 Men R.P.R.  
25 Natives.  
Time taken : 1 day.

SEMI-PERMANENT BRIDGE.

Scale 8 Feet = 1 Inch.

A SIMILAR BRIDGE AT K.M. 209 HAS BEEN REPAIRED IN THE SAME MANNER.





# FREDERIKSSTAD BRIDGE. ELANDSFONTEIN-KLERKSDORP LINE.

SEMI PERMANENT BRIDGE.

Scale 8 Feet = 1 Inch.

Officer in Charge : *Lieut Verree, R.P.R.*

Working Party : *11 Men B.P.R.*

*54 Natives.*

Time taken : *5½ days.*

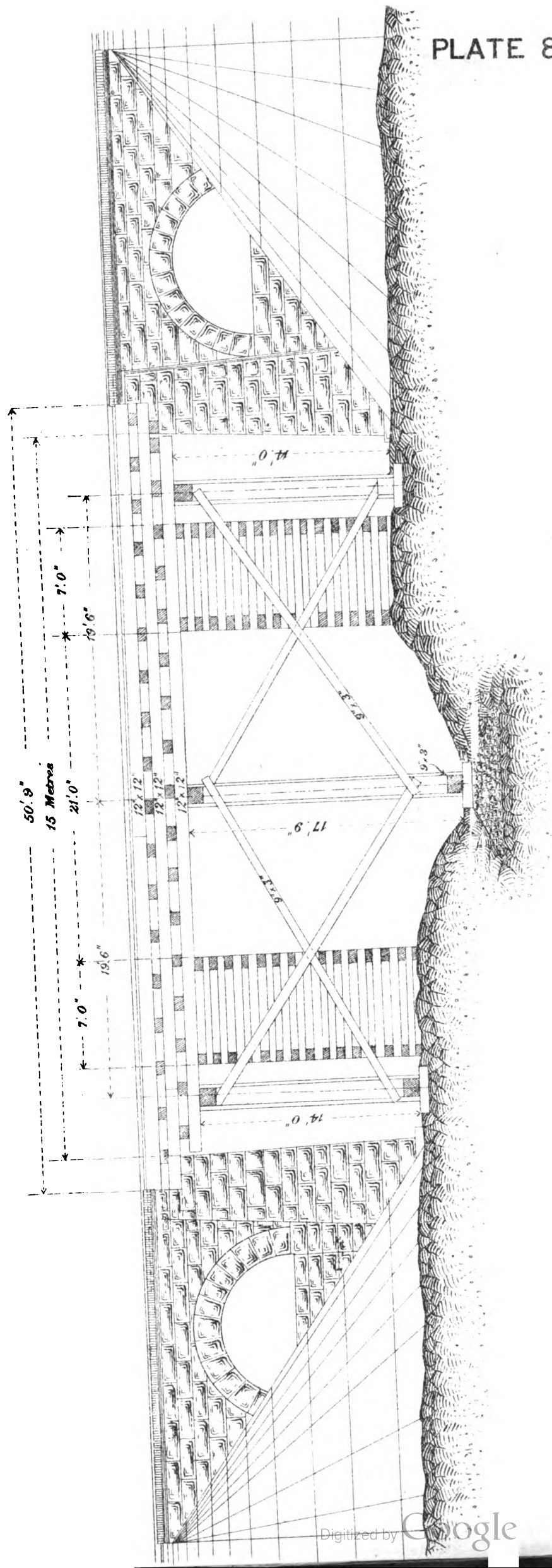
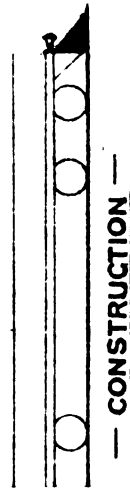


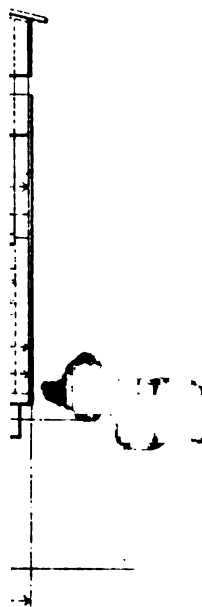
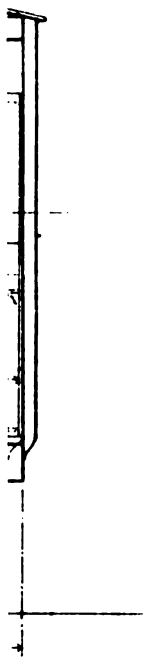


PLATE 88.

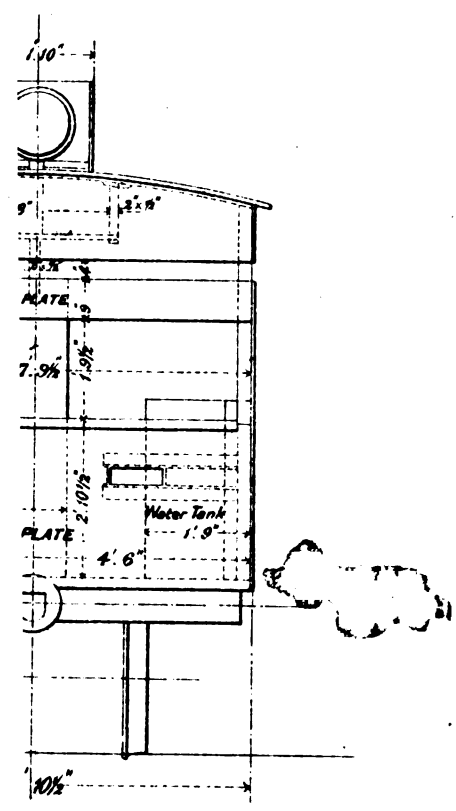
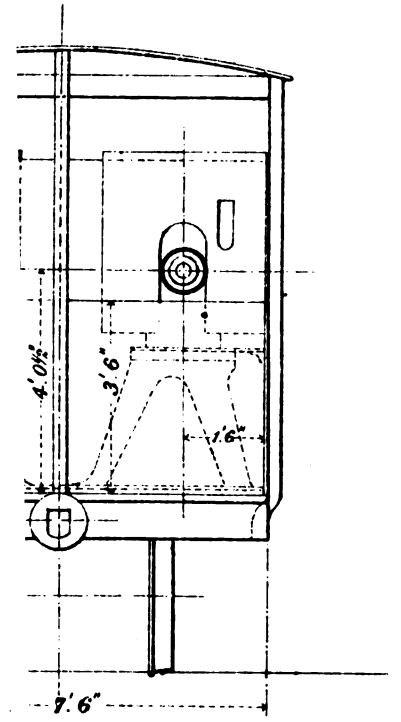
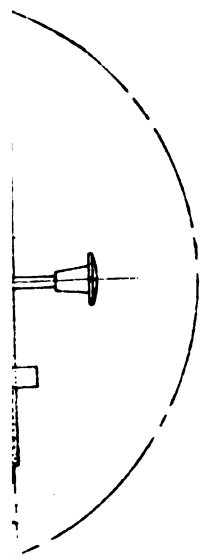
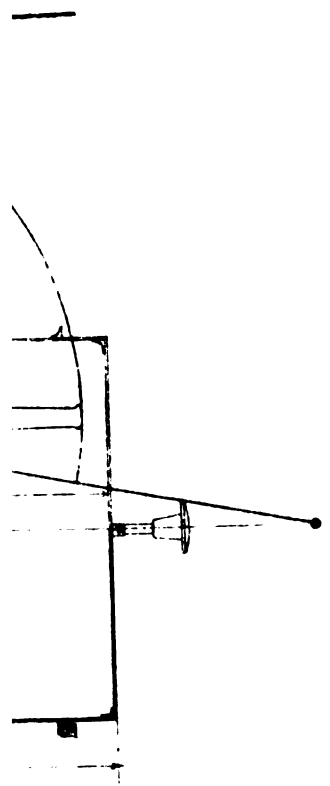






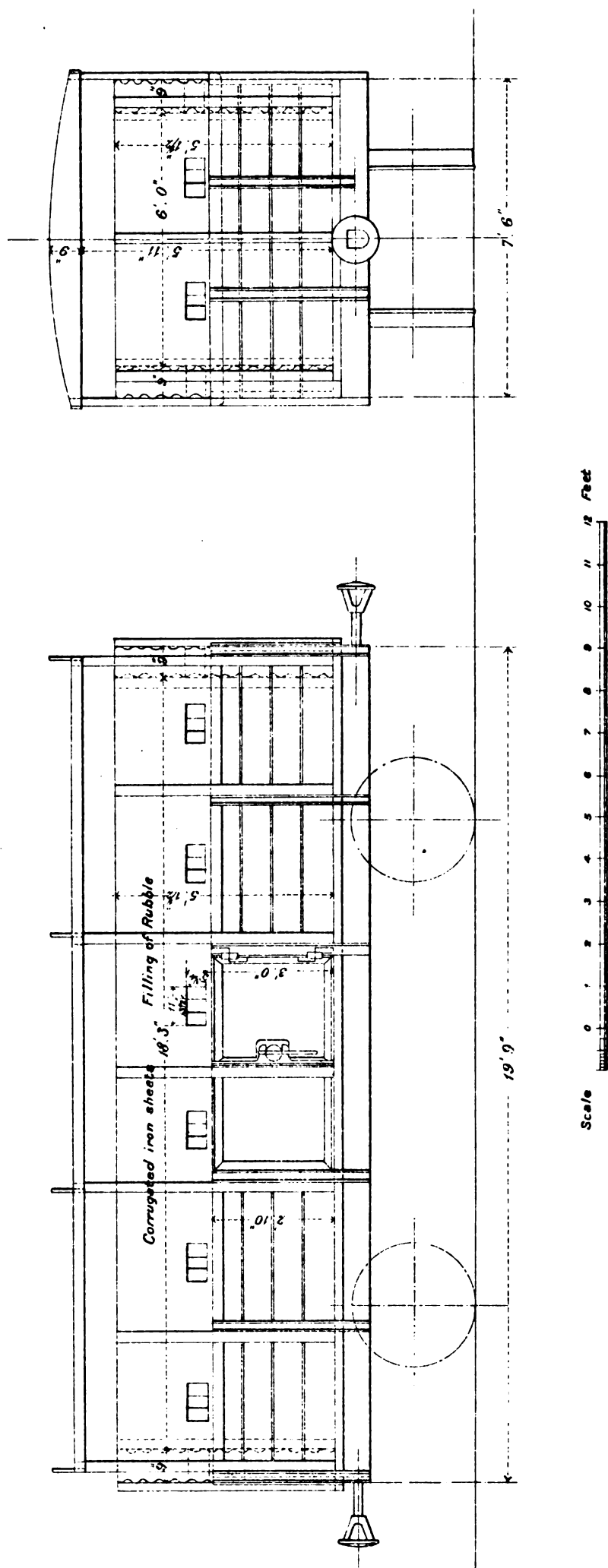








# ESCORT TRUCK





# — **ARMoured BRAKE VAN** —

— PROVIDING FLANK FIRE —

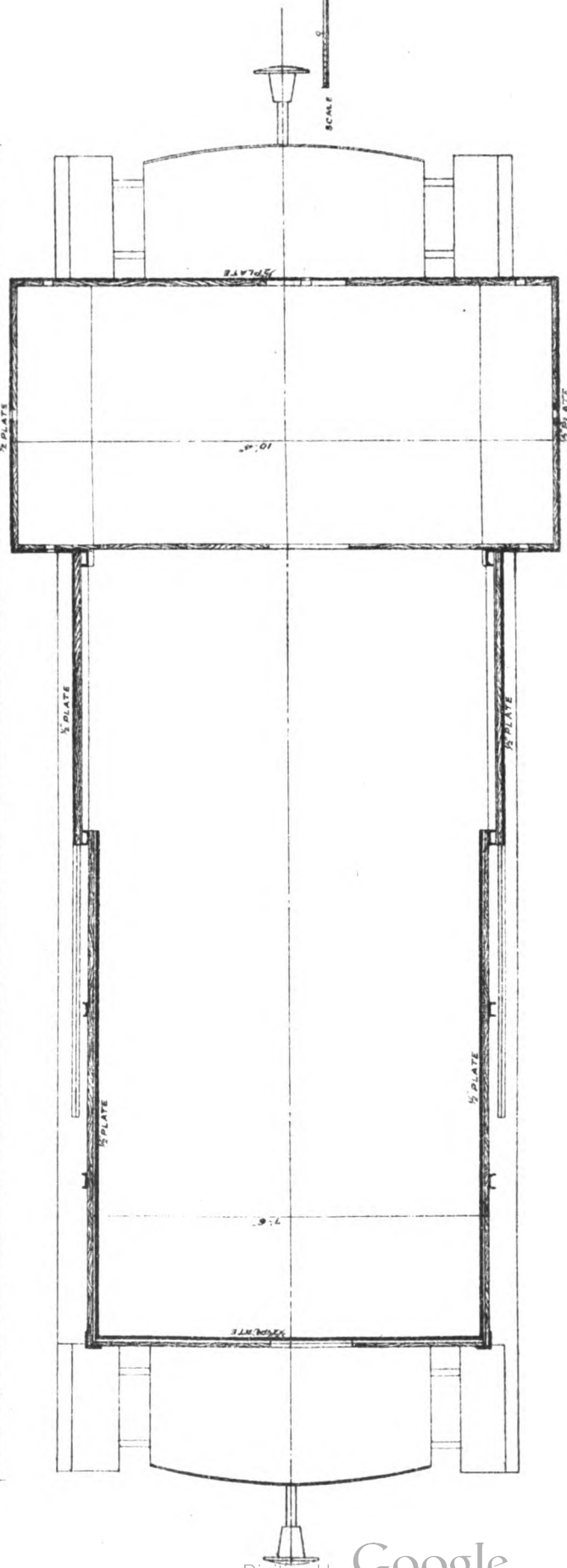
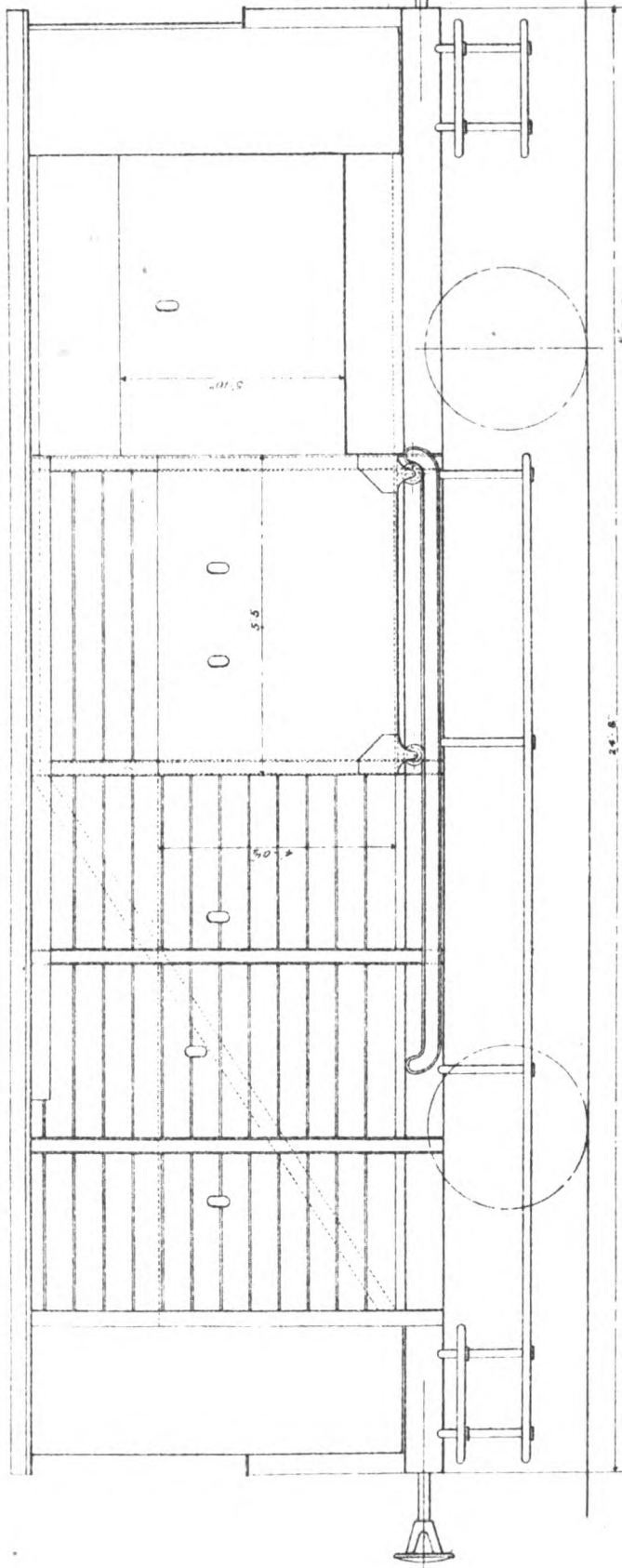
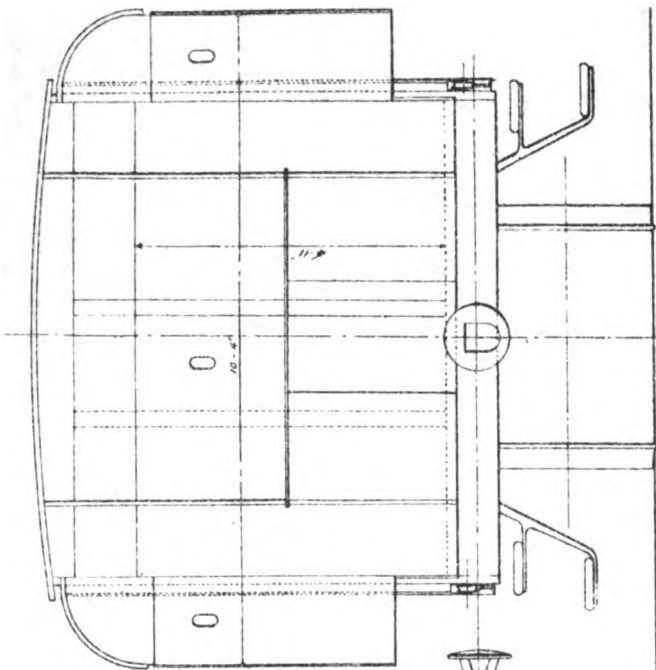


PLATE 93.

SCALE 1" = 10'









